American FORESTS

MAY, 1955 50 CENTS

Florida—Scene of AFA's 80th Annual Meeting October 2-6

See Stories Beginning on Page 31

HERE'S PROOF THAT A-W GRADERS WITH ALL-WHEEL DRIVE HAVE 30% MORE POWER AT THE BLADE

To calculate Power-at-the-Blade, it is necessary to determine (1) skid pull due to traction and (2) maximum rim pull due to engine; using the formulas at the right, which are those used by manufacturers of tires and farm tractors.

The *effective* Power-at-the-Blade will be the *lesser* of the two figures. If you have more power than is necessary, and insufficient weight on driving wheels, you will slip the wheels, making SKID PULL the *limiting factor*. If you have insufficient power to slip the wheels, RIM PULL due to engine will be the *limiting factor*.

SKID PULL
(DUE TO TRACTION)

SKID PULL = W x f

W = WEIGHT ON DRIVERS
f = FRICTION COEFFICIENT BETWEEN TIRES AND GROUND

MAXIMUM RIM PULL
(DUE TO ENGINE)

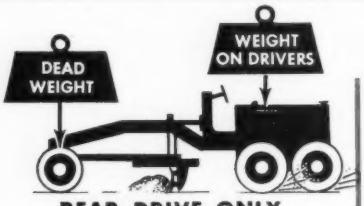
$$\text{RIM PULL} = \frac{T \times 12 \times R}{Y}$$

T = ENGINE TORQUE AT PEAK (INTERMITTENT RATING)
R = TOTAL RATIO, ENGINE TO REAR WHEELS
Y = LOADED RADIUS OF TIRE (INCHES)

EFFECTIVE POWER AT THE BLADE WILL BE THE LESSER OF THE ABOVE TWO FIGURES

Working in average dirt in first or second gear, all graders have more than enough weight to spin their drivers; therefore Skid Pull is the limiting factor, and the measure of comparative performance. The Austin-Western Power Grader, with its exclusive All-Wheel Drive, has 30 per cent more weight on driving wheels than any other grader; consequently moves 30 per cent more material . . . it's as simple and inescapable as that.

HERE'S WHY A-W GRADERS DELIVER MAXIMUM POWER



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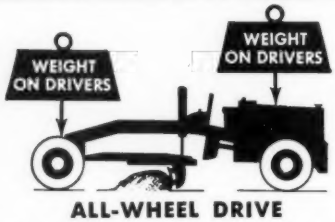
No grader with a dead front end can possibly deliver maximum power at the blade. Weight carried on the idling front wheels of the conventional tandem-drive grader is *dead* weight, contributing nothing to traction—*lazy* weight, consuming power to no purpose. Every pound of weight not carried on a driving wheel *handicaps your horsepower.*



ALL-WHEEL DRIVE

On the Austin-Western Power Grader there are no idling front wheels—no dead front end to consume power and decrease efficiency. Every pound of weight rides on a driving wheel. Every pound is working weight—contributing 100 per cent to traction, utilizing the torque of the engine to best advantage, delivering maximum power where it counts—*at the blade.*

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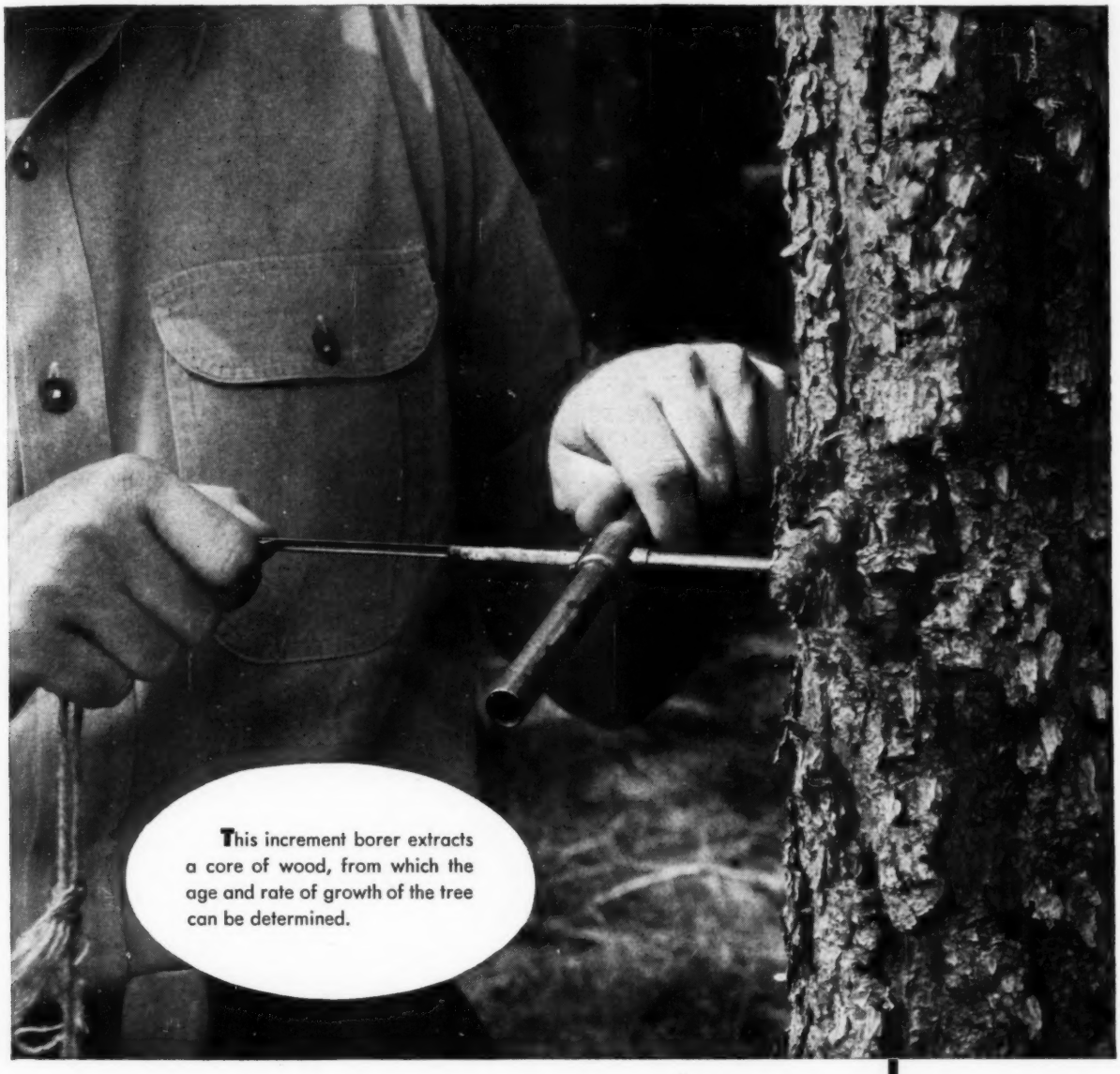

This increment borer extracts a core of wood, from which the age and rate of growth of the tree can be determined.

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THE AFA

The American Forestry Association, publishers of AMERICAN FORESTS, is a national organization—independent and non-political in character—for the advancement of intelligent management and use of forests and related resources of soil, water, wildlife and outdoor recreation. Its purpose is to create an enlightened public appreciation of these resources and their part in the social and economic life of the nation. Created in 1875, it is the oldest national forest conservation organization in America.

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Letters

Forest Service Issue

EDITOR:
. . . We especially like the emphasis given to a constructive look ahead . . .
Richard E. McArdle
Chief, Forest Service, USDA

EDITOR:
. . . Your March issue of AMERICAN FORESTS was outstanding . . .
G. W. E. Nicholson
Executive Vice President
Union Bag & Paper Corporation
New York, N. Y.

EDITOR:
. . . Contains a wealth of readable, informative and interesting material . . .
George O. White
State Forester, Missouri

EDITOR:
. . . As far as I can recall as a reader of AMERICAN FORESTS for many years there has not been a better issue . . .
Wilson Compton
President, Council for Financial Aid to Education, Inc.
Six East Forty-Fifth Street
New York 17, N. Y.

EDITOR:
. . . Not only is the picture of the Forest Service delightfully presented, but it is of real benefit to the country in helping to spread knowledge and confidence in our government department. . . .
(Mrs.) Katharine Jackson
State Senator, New Hampshire

EDITOR:
. . . This issue was certainly interesting to me as I have known all these foresters from Pinchot on down. I might say that in my opinion the present Chief of the Forest Service is about the most understanding and practical one we have had . . .
D. C. Everest
Chairman of the Board
Marathon Corporation
Rothschild, Wisconsin

EDITOR:
. . . a worthy tribute to a great organization.
Richard L. Neuberger
United States Senator, Oregon

EDITOR:
. . . This issue shows flare and inspiration.
Leonard G. Carpenter
President, McCloud Lumber Company
Minneapolis 2, Minnesota

EDITOR:
. . . Richard E. McArdle, Chief of the Forest Service, deserves great credit for his vision and confidence as shown by his excellent article "The Forest Service Looks Ahead." When the Chief Forester expresses such confidence in the future and outlines a policy of humility and cooperation with private and state programs we can expect the next 50 years to show even greater progress in American forestry. The cooperative approach will solve our forestry problems if federal, state, and private foresters all devote their efforts to showing how to make forest management pay, on both public and private lands. . . .
Verne D. Bronson
Tree Farm Management Service
Eugene, Oregon

(Turn to next page)

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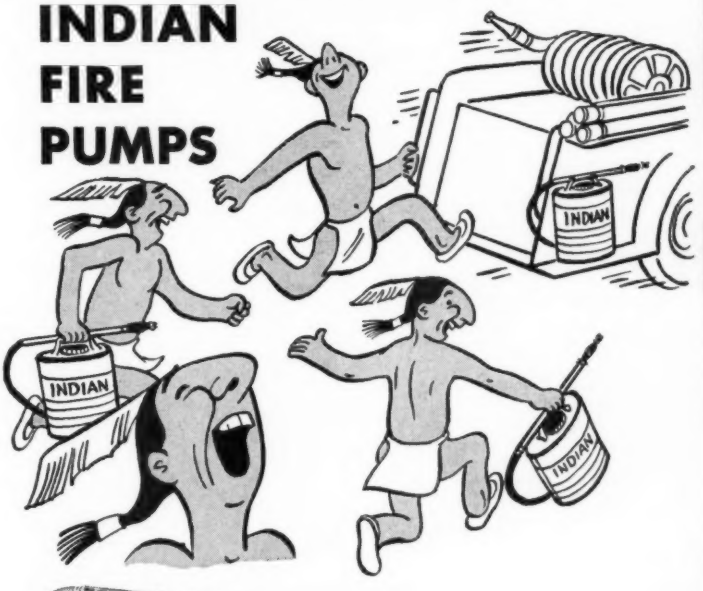

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Letters to the Editor

(*From page 3*)

EDITOR:
. . . When the Forest Service had its 25th anniversary The American Forestry Association published a memorial issue on the national forests, which came to my attention during my early years in college. I believe it was published in July, 1930. That issue made a tremendous impression on me and had some influence in my deciding to study forestry. I am sure that this 50th anniversary issue will go down in history alongside the 25th anniversary issue and is something that all of us in the Forest Service will remember for a long time.

Edward C. Crafts
Assistant Chief, Forest Service

EDITOR:
. . . I cannot help stopping from my Guernsey activities long enough to say well done on your March issue. Mrs. Smith who teaches the fourth grade in our Public School, had this comment, "AMERICAN FORESTS is fine this time."

Philip W. Smith
Evergreen Farms
New Hope, Pennsylvania

EDITOR:
. . . My son now in prep school is interested in becoming a forester. A neighbor told me about the March issue of AMERICAN FORESTS. Please send me a copy.

(Mrs.) Robert Corrigan
San Francisco, California

EDITOR:
. . . Could you possibly publish a picture of Mrs. Dorothy Gray Guck (Occupation-Ranger's Wife), her husband Ed, and their family? Our family would like to see what they look like. This was a very wholesome story.

(Mrs.) Norman Eddington
New York, N. Y.

(*Editor's Note*—Mr. and Mrs. Ranger and family. Mrs. Guck, a livewire in her own right, was active in rescuing the "live" Smokey Bear, symbol of forest fire prevention in the nation, who now resides in the Washington, D. C., Zoo. The cub "Smokey" had been singed pretty seriously when the Gucks took him in custody.)

EDITOR:
. . . The array of women who contribute to the work of the Forest Service and that fine article by Mrs. Guck as presented in your March issue provides the answer to all those who decry the contributions of women to conservation. As Mrs. Guck states, women DO have to have a CAUSE. . . .

(Mrs.) Rachel Haney
Philadelphia, Pennsylvania

EDITOR:
. . . Congratulations on your March AMERICAN FORESTS.

H. B. Shepard
Forest Economist
Federal Reserve Bank
Boston, Massachusetts

EDITOR:
. . . outstanding job.

E. L. Demmon
President, Society of American Foresters
Asheville, North Carolina

EDITOR:
. . . As an old National Parks man, I value the issue very highly. AMERICAN FORESTS is an outstanding magazine and should be in the library of all colleges and other institutions interested in conservation and in the hands of all individuals concerned with forests and forestry.

Horace W. Albright
30 Rockefeller Plaza
New York 20, N. Y.

EDITOR:
Not to take the bloom off, but just because the March issue was such an attractive presentation as well as a wonderful job, I want to show you how it arrived at my house and how it looked on my library table. I just couldn't stand it and tore off the cover page. Isn't there something we can do to prevent the handsome face of the magazine from becoming mutilated by misplaced address labels? I am sure it has bothered you and others and we all agree it is a shame and there *must* be a way of stopping it.

George W. Merck
Eagleridge Farm
West Orange, New Jersey

EDITOR:
. . . An excellent piece of work . . .

Lawrance W. Rathbun
Forester, Protection of
New Hampshire Forests
Concord, New Hampshire

EDITOR:
. . . Regards the list of conservation organizations as shown on page 92 March issue of AMERICAN FORESTS (Can You Add To This List? — Conservation's Ever-Widening Stream) how about the Defenders of Furbearers with offices at 1214 16th Street, N. W., Washington 6, D. C.?

E. W. Roush
Lindsey, Ohio

EDITOR:
C. W. Mattison's article starting on page 28 of the March issue has a boxed in list; with the question: "Can you add to this list?" Here is a group which should be included:

The Conservation Council of Business, Industry and Finance, a non-profit corporation of Michigan, with offices at 530 South State Street, Ann Arbor, Michigan.

L. A. Danse
Detroit, Michigan

EDITOR:
. . . Although I had anticipated your March issue would be super, it actually exceeds my expectations. Thank you—and congratulations.

W. J. Damtoft
Champion Paper and Fibre Company
Canton, North Carolina

EDITOR:
May I add my congratulations to the many I know you have received for the very outstanding March issue of your magazine. It is beautifully done and worthy of all the 50th anniversary of the United States Forest Service means.

Mrs. Marion T. Weatherford
Chairman, Conservation of Natural Resources Dept.
General Federation of Women's Clubs

EDITOR:
My work was seriously interrupted this morning by the arrival of the most attractive Golden Jubilee issue of *American Forests*. However; the magazine made me feel very ancient. On page 3 is a picture entitled "Group of budding foresters in 1904." The names of all the group are given, with one exception, marked "unidentified." Well, I am that renegade! Fourth from the left, second row down. Name: Joseph T. Smith.

Can it possibly be 50 years since that delightful summer I spent at Milford, in the summer camp course of the Yale School of Forestry? The period is one of the happiest memories of a fairly long life. However, I had had rather poor health as a growing boy; and the summer showed me that I simply did not have the stamina for the life of a forester. So, at the close of that summer camp, I dropped out of the class. I graduated in medicine at Johns Hopkins Medical School. For years, I have been associated with the Tufts Medical School, in Boston. No: I DID NOT flunk any of the work in the Yale Forestry School course!)

An old album of photographs taken that summer still contains an original print of the very picture you have reproduced.

Joseph T. Smith, M.D.
Boston, Massachusetts

By ALBERT G. HALL

A NEW BILL TO CORRECT ABUSES UNDER THE MINING LAWS has been introduced by Representative Dawson of Utah, H.R. 5561, with similar bills also put into the hopper by Representatives Fjare of Montana, Young of Nevada, and Ellsworth of Oregon. The measure removes one of the major attractions to what Mr. Dawson calls "weekend miners"—persons who use the mining laws to "lay claim to valuable stands of timber and choice summer home sites." It removes sand, stone, gravel, pumice, pumicite and cinders from the mining laws and places them under the Materials Disposal Act, under which they may be sold much as timber is sold from the public domain. Federal jurisdiction would be maintained over the surface resources of mining claims, with timber being available to mining claimants to the extent required by mining activities and when cut in accordance with sound principles of management. The bill also provides a procedure for resolving title uncertainties resulting from the existence of abandoned, invalid. dormant, or unidentifiable mining claims located prior to the enactment of the measure. It is expected that this bill, having been worked out with the mining industry and with the support of both the Department of Agriculture and the Department of the Interior, will be enacted this session. The bill is the result of a conference called last February 10 by The American Forestry Association to correct this problem. Representatives of the American Mining Congress and the Interior and Agricultural Departments participated. A companion bill (S.1713) has been introduced in the Senate by Sen. Anderson, N. M.

WATER RESOURCES OF ALASKA, like those of the continental United States, are assuming greater importance with the settlement and industrial development of the territory. A bill, H.R. 3990, introduced by Delegate Bartlett of Alaska, and reported favorably by the House Committee on Interior and Insular Affairs, provides for an investigation and report to the Congress on projects for the conservation, development and utilization of the water resources of Alaska.

MUCH OF ALASKA'S DEVELOPMENT IS DEPENDENT UPON THE WISE UTILIZATION of its timber resources. A bill, S. 450, was introduced early in the session by Senator Langer of North Dakota proposing the establishment of a national park on Alaska's Admiralty Island. The island now has national forest status. Last month a representative of the U.S. Forest Service pointed out to the House Committee on Interstate and Foreign Commerce, which is studying the national newsprint situation, that the establishment of the proposed park would make impossible the anticipated development of a newsprint industry at Juneau. The park would result, he said, in permanently reserving from cutting some 9 million board feet of merchantable timber. At the present time, the Forest Service proposes to advertise for sale around 7.5 billion board feet near Juneau, most of it on Admiralty Island. Plans are for the early establishment of a newsprint mill with 500 tons daily capacity and with provision for expansion to 750 tons daily.

TWO LARGE PROPOSED ADDITIONS TO THE NATIONAL FORESTS are now being considered by the Congress. One is likely to take place without much opposition; the purpose of it is to include within the Lincoln National Forest in New Mexico, 13,600 acres of federal land which had been acquired in 1952 by an exchange with the State of New Mexico, under the Taylor Grazing Act. Since the land is already in federal ownership and lies within the boundaries of the Lincoln National Forest, the proposed addition does not run contrary to the Administration's policies. It is likely that S.72, introduced by Senator Anderson of New Mexico and passed

(Turn to next page)

by the Senate, will receive favorable treatment in the House. The other measure is likely to run into considerable opposition. Hearings have been held by the House Committee on Interior and Insular Affairs on H.R. 2774 and H.R. 2787, bills to authorize the federal government to purchase 98,690 acres of private land lying within and adjacent to the Sitgreaves and Coconino National Forests in Arizona. The land is that of the Aztec Land and Cattle Company. Although the Forest Service has been considering the acquisition of this land for a number of years, the present Administration has repeatedly expressed a policy against substantial enlargements of federal ownership of forest land.

FEDERAL POLICY UNDER THE SMALL WATERSHEDS ACT, Public Law 566 of the 83rd Congress has been signed by the Secretary of Agriculture. Carrying out the letter and the intent of the law, the Secretary places much of the burden for project development upon the local watershed organizations. Before receiving federal aid for works of improvement, the local organization is required to provide assurance that it will pay its proportionate share of the costs of installation, to assure adequate operation and maintenance, to acquire or to show that landowners have acquired needed water rights and are complying with state and federal water laws, and to show that the necessary land, easements and rights of way have been acquired. Land treatment for flood prevention on federal lands will be the responsibility of the federal government; but costs of other works of improvement will be shared by the local organization and the federal government in proportion to the relative benefits to be derived.

APPROPRIATIONS FOR THE U.S. FOREST SERVICE are included in the Interior Department appropriations bill this year. The bill, H.R. 5085, covers "the Department of the Interior and related agencies." Purpose is to bring before the same subcommittees of the House and Senate Appropriations Committees all items related to the land management functions of the federal government. As passed by the House on March 24, the bill provides for the same amounts as requested for the forestry activities of Interior and Forest Service (see page 85 of the March AMERICAN FORESTS) with the following changes: A $200,000 reduction in access road funds for the O & C lands, Bureau of Land Management, because actual expenditures in recent years have fallen below budget requests. The House restored the $1,083,690 cut proposed in the budget for state and private forest fire control, Forest Service, thus bringing the total to the 1955 figure of $9,449,500. The budget estimate of $280,000 for cooperative range improvement work, Forest Service, was raised to $400,000 — the same figure as last year. An amendment was offered on the floor of the House by Representative Gavin of Pennsylvania to add $400,000 to the appropriation for forest management and processing to private owners under the federal-state cooperative program; but this was defeated. Total annual definite appropriations to the Forest Service, by the House action, show the following comparisons: Fiscal Year 1955, $82,439,890; budget request for 1956, $83,733,000; approved by the House for 1956, $84,936,690. Indefinite appropriations for the Forest Service — those derived from receipts, refunds, etc. — were $26,525,870 for Fiscal Year 1955; the budget for these items, $25,572,300, was not changed by the House.

THE APPROPRIATIONS BILL FOR THE DEPARTMENT OF AGRICULTURE, H.R. 5239, as passed by the House provides over the budget figures an increase of $2,916,379 for Soil Conservation Service operations, bringing the total for this activity to $58,612,579. For watershed protection, S.C.S., the House added $1,000,000 to the budget request, for a total of $12,000,000; and for flood prevention, an additional $1,300,000 bringing the total to $10,000,000. Included in the increase for S.C.S. operations is $1,400,000 to finance 58 new soil conservation districts expected to be established during the coming year. In making these additions to the S.C.S. items, the House Committee on Appropriations expressed concern over "evidence of efforts to gradually eliminate this program." The committee report stated: "apparently a task force of the Commission on Intergovernmental Relations intends to recommend that this organization be abolished and its work turned over to the state extension service or something similar.

SUPPLEMENTAL APPROPRIATIONS FOR THE FISCAL YEAR ENDING JUNE 30, 1955, as passed by the Senate, include $4,000,000 for forest highways, $1,000,000 more than was passed by the House; purpose is to meet contractual obligations. Included also is $250,000 for fire suppression, Bureau of Land Management, and $2,570,000 for the Forest Service for control of spruce budworm in Oregon, Idaho, Montana and New Mexico.

EDITORIAL

Credit Where Credit Is Due

Members of The American Forestry Association, including those of us who have been critical of the mining industry in the past, last month were praising the cooperative and helpful attitude exhibited by mining leaders at a conference called February 10 by AFA to explore, and if possible to correct, the troublesome problem of mining law abuses on public lands. Result of this conference with Interior and Agriculture Department leaders was the introduction in Congress last month of soundly-conceived proposals (See page 18) the enactment of which will enable the government to wash out the bulk of invalid mining claims while permitting a more workable form of multiple use management on those that are valid. Adoption of these proposals as incorporated in bills introduced by Senator Anderson, of New Mexico (S. 1713), Representative Dawson, of Utah (HR 5561), and others will represent an achievement of the first magnitude for sound land management. Americans everywhere should give their full support to these proposals and apprise their representatives of their convictions.

The number of individuals who have been using the public lands for purposes other than mining as permitted under the mining laws has created a cancerous condition in the land management pattern. Moreover, this situation has continued to worsen in recent years. Consequently, the support of the industry at this particular time is a heartening development—one that would indicate that no management problem is insurmountable if groups most concerned can be encouraged to talk it over. No one, of course, has ever had any desire to interfere with legitimate prospecting and mining. The quarrel has been with those individuals who file mining claims to obtain the use of valuable timber, to build summer homes, to set up their own private hunting and fishing preserves, and who frequently block access to water for livestock or to government timber behind claims. Another disturbing problem has been the cost to the government, both in time and money, of examining claims to determine their validity. As an assistant chief of the Forest Service told The American Mining Congress last year, ". . . To examine the 84,000 claims on national forests (actually, that number has more than doubled in recent months) and to protest those which are questionable would cost about 20 million dollars and require 3,000 man-years of work." (Right now, one new claim is filed on the national forests every eight minutes at the rate of 167 a day, or 5,000 new claims each month.)

The blueprint for solving many of these vexing problems has now been designed and awaits favorable action by the Congress. That blueprint is largely the brainchild of the mining industry. In setting forth their position at AFA's conference, industry spokesmen said they would lend their assistance providing there was no attempt to upend the present patent system. One thing every sourdough knows—the one fact he latches onto—is that he can obtain a patent if he succeeds in successfully developing his claim, miners said. Therefore, to upset or otherwise interfere with the patent system would discourage future discovery which in turn would injure both the industry and the country. For these reasons, mining's representatives took a dim view of a conviction widely-shared in forestry that claimants, at the time of going to patent, should pay for the timber on their claims.

The conference could have easily reached an impasse on this topic had it not been for Chairman DeWitt Nelson's suggestion that conferees seek areas of agreement rather than disagreement. Whereupon the industry leaders proceeded to develop a lucid plan that would permit multiple use management on valid claims while washing out the bulk of claims that are invalid. Briefly, the plan would ban location of claims for common varieties of sand, stone, gravel, pumice and cinders and make them subject to disposal under the Materials Disposal Act. As to mining claims hereafter located, the proposal would, prior to patent, prohibit use of claims for any purpose other than mining; authorize the government to manage and dispose of the surface resources and have right of way to adjacent lands; and bar the claimant from removing the timber and other surface resources except as required for his mining operation. Finally, the plan provides a "quiet title" procedure under which the proper agencies could expeditiously resolve title uncertainties resulting from the existence of abandoned, invalid, dormant or unidentifiable claims located prior to the adoption of the present proposals. As described in more detail on page 18, this procedure would enable the government to "clean up' selected areas in a comparatively short time while fully protecting the rights of the legitimate miner.

Both practical and workable, these proposals caught the immediate interest of the conference. They have now been translated into proposed legislation and have the support of such conservation stalwarts as Senator Aiken, Congressmen Cooley and Hope and others who have associated themselves with the program. Their adoption should help to eradicate a grievous sore spot in public lands management once and for all. In giving credit where credit is due, The American Forestry Association salutes the mining industry which conceived the idea. It extends its accolade to the Interior and Agriculture Departments for their aid in helping to translate it into action.

Out of a unique meeting in Onondaga County, New York, has come a pilot plan that may well be a model for other states

An American Community Reaches for Water

By HENRY W. SCHRAMM

Planting trees on hillsides solves many watershed problems

Onondaga County hillsides also are protected from grazing

ONONDAGA County, New York, is such a "typical American community" that its 350,000 inhabitants are often used as guinea pigs for consumer testing of nationally advertised manufactured products and motion pictures.

Like dozens of other metropolitan areas throughout the country, this central New York district has been subjected to great industrial expansion since World War II. Giant corporations such as General Electric, Carrier Corporation, and Solvay Process, makers of soda ash, are packed into its 800-square-mile area.

Suburban developments are swallowing up farmlands adjoining the city of Syracuse with its quarter-million people. Already, the county is officially declared to be one of the fastest growing residential communities in the nation.

And, like its other American counterparts, this "typical community" is about to run headlong into a walloping water supply problem. It's the familiar old three-pronged problem of inadequate supply for expansion, erosion, and pollution.

To the south of the city lie half a dozen watersheds. However, poor watershed management in the past is paying off with less water for the county's two main sources of supply — Otisco Lake for the county and Skaneateles Lake for the city. At the same time farmlands and city sections alike are feeling the effects of pollution, erosion, and flooding.

Residents of the two lake fronts (both in the famous Finger Lake region), troubled by several years of drought, have been complaining of low water which leaves docks high and dry. Yet, within 40 miles of the city, two major lakes which could furnish almost unlimited supplies have yet to be tapped. Constructing facilities for either one would cost many millions—a pittance compared to New York City's planned Delaware River Dam for $85,000,000, or Los Angeles' billion and a half dollar venture into the highlands above San Francisco.

But it's hard to convince city of Syracuse residents, who have been used to all the clean water they can possibly need for "dirt cheap" prices, to shell out for new facilities.

While the city isn't really feeling

Skaneateles Lake, foreground, which supplies water for Syracuse, and Otisco Lake, upper left, source of water for county area outside city

the pinch yet, the county has the growing pains. Pipe pressure is dropping in many localities. Real estate developments are being stymied because no one can give them the water they need.

Experts in the industrial picture are really concerned. They see potential loss of future industrial expansion costing heirs of present residents billions of dollars in potential business profits and paychecks over the coming centuries. Rumors are spreading, in circles which should know, that Onondaga County even now can't supply water to new industry.

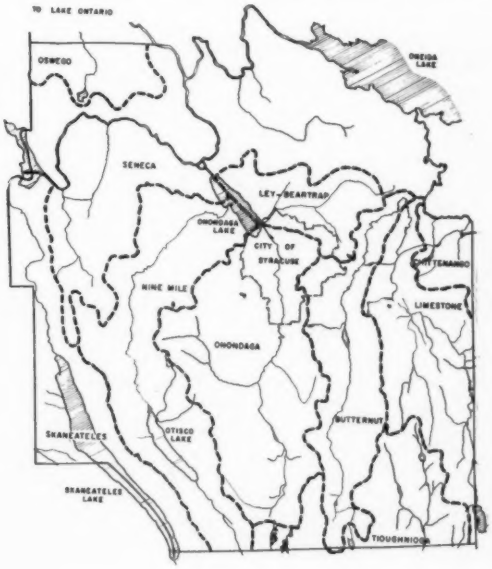
It's this mixture of rumor and foresight that determined two Onondaga County groups, the Manufacturers' Association of Syracuse and the Natural Resources Council of Onondaga County, to sort out the facts for area residents.

For eight months they met jointly, ironing out plans for a program to pinpoint the water troubles in the county. The object: to get the community in the frame of mind to reach out for that necessary water.

The result was the converging of an imposing array of water specialists from throughout the state and nation to the city's Hotel Onondaga in March for a one-day Water Clinic, with Dr. Harold G. Wilm, Associate Dean of the State University of New York's College of Forestry as moderator.

Example of unnecessary damage caused by flooding streams

Watershed map of New York's Onondaga County



One of the first meetings of its kind anywhere, the four-hour session of briefings and question and answer discussions, drew a quality audience of more than 100 local industrialists, conservationists, educators, and sportsmen — as well as John Q. Public.

Out of it came a pilot plant operation for clearing the air and public mind, applicable not only to Onondaga County, but for every farsighted community in the country. The audience came away with a lucid picture of the exact problems facing the city and county, the need for metropolitan action, and the hard, firm facts on which to build a constructive program for the future.

Manufacturers are positive of one thing. Long range planning with city and county joining together is essential to licking water shortages. They realize decisions must be made and "can't be ducked." Unless there is a good supply of water at low rates, manufacturers can't meet the competition of industry against industry and community against community. Since about 53 per cent of the workers employed in local industry work outside the city, this problem is one that has to be fought out on a cooperative basis, Carl F. B. Roth, president of the Manufacturers' Association, warned.

Brought out was the point that many units of government must consolidate their interests for the common goal. This jibes with the metropolitan concept's counterpart — cosmopolitanism. That is, a willingness of individual groups to submerge their own desires in a common pool for the benefit of all.

Dr. Morris Cohn, former city manager of Schenectady, New York, and currently consultant for the New York State Joint Legislative Committee on Natural Resources, listed Onondaga County problems as a classic opportunity for "real cooperative treatment of a common metropolitan problem."

This problem exists because of the dual water supply system within the area. A sufficient city water supply for 20 more years is possible through the Skaneateles Lake reservoir system by curbing leakages in creek beds and conduits and by initiating a strong watershed management program.

In the county, however, an old system of limited capacity which is run by the New York Water Supply Corporation, a private enterprise, cannot adequately furnish present day county needs outside the city. The Onondaga County Water Authority headed by Thomas Dyer, chairman of the Board of Supervisors, is currently trying to push through condemnation proceedings on the system so that it can be bought at condemnation rates by floating a bond issue.

Even so, a proposed expansion of facilities is still limited to the capacities of Otisco Lake and sooner or later the areas must get its water from either Lake Ontario, one of the Great Lakes 40 miles to the west, or Lake Oneida, 18 miles to the north.

High initial costs in pumping facilities, rights of way, and treatment plants would require well over $10,000,000 to set up the Ontario project, although the county would never lack for water thereafter.

A cheaper source of water is available at Lake Oneida, a relatively shallow body which could furnish 20,000,000 gallons a day to the area. Sportsmen's groups, many industrial concerns, and a large number of residents don't relish the thought of Oneida Lake water, however. It is apparent that somewhere along the line a meeting of minds is essential.

A busy tree planting crew at work reforesting Onondaga County watershed lands

Meanwhile, a number of other water sources are being studied in order to augment present reservoirs.

Clinic attendees learned that Prof. Apfel, a member of Admiral Byrd's 1948 Antarctic expedition and currently chairman of Syracuse University's geology department, has been studying potential artesian water sources in the county to augment the reservoir in supplying the city's estimated 42,000,000 gallon daily need.

This part of central New York is blessed with geological formations with bedrock dipping to the south in

Farseeing farmer uses strip farming to help prevent erosion

More than 100 of Onondaga County farms now have farm ponds

Onondaga Lake, which is being polluted by city and county sewage

the mountainous southern area of the county. Normally this would be a vast underground reservoir. However, in Onondaga County the rocks are too tight for good seepage and, besides, minerals including salt and sulphur make the water unusable except after expensive treatment.

To the north, however, glaciers have left a flat plain with large pockets of gravel and sand, forming natural reservoirs. Prof. Apfel is continuing investigations into this area as a potential auxiliary source for city needs.

Damming in watershed areas and channelling of watershed streams to Skaneateles is also in investigative stages, Potter Kelly, City of Syracuse Engineer, told the clinic. However, these would be merely stopgap measures. Long range planning must consider Ontario or Oneida.

The ideas that Onondaga County's problems are unique and that water supply and erosion can be treated on separate levels, was debunked from the start by Dr. Wilm.

Erosion and attendant pollution have been with us since the first white settlers along the eastern seaboard watched their farmlands feeding rich soil to flooding brown rivers. George Washington came to grips with the problem when the fertile Mount Vernon fields were damaged by erosion late in the eighteenth century.

As man headed west, the erosion problem expanded. Chopping down of vast forests for croplands by the pioneers is paying off with floods such as the Ohio River deluge this March.

Realization that watershed management is a key to water shortages and flood control is exemplified by action in Lincoln, Neb., where city residents have joined forces with farmers and ranchers in outlying watersheds to set up proper controls.

Onondaga County is doing its part in this phase, although, as yet, the beginnings are small. With encouragement by the county, the Natural Resources Council and local residents have formed the Limestone Creek Watershed Council, to work on watershed problems of the hilly eastern section of the county and the growing villages of Manlius and Fayetteville. They are doing unofficial investigative work into the causes of flooding, soil, and creek bank erosion, and pollution occurring near populated places. Several other unofficial committees of this sort are planned for the remainder of the 10 Onondaga County watersheds.

Dr. Wilm and Herbert Walker of the U. S. Government's Soil Conservation Service Office endorsed the Small Watershed Law (Public Law 566) as a major means for watershed residents to help themselves by further organization. Thus they would qualify for official technical assistance and later financial aid for long-range projects.

Watershed work has been accomplished in Onondaga County by official forces in the past 11 years by the U. S. D. A. Soil Conservation Service and the Soil Conservation District, the latter organized under state law by the county's Board of Supervisors.

Nine hundred farmers have already signed cooperative agreements for soil and water conservation on

Dr. Harold Wilm, right, advises, Thomas Dyer, left, and Potter Kelly at the clinic

Dr. Morris Cohn, natural resources consultant, explains a point to Harold Eaton

Stream bank erosion graphically shown in photo of Butternut Creek

their lands. One hundred and fifty farmers make annual requests for governmental aid through the Soil Conservation office.

A million trees and shrubs are planted each year, with 6,500 watershed area acres already planted to trees and shrubs. Five thousand acres of cropland are being protected by strip farming. Six thousand acres of steep slopes bordering the valleys to the south have been retired to permanent hay. Twelve thousand acres of woodland are protected against grazing cattle. Improvement has been made in 6,000 acres of pastureland, and 100 farm ponds have been built to conserve water and prevent erosion.

Yet, despite these imposing figures, Walker told the clinic, only a small portion of the necessary work has been done.

The county itself is working toward reforestation in numerous park and submarginal areas. Setting an example himself, County Supervisor Dyer has planted 90,000 trees on his own private watershed lands.

Some industrial concerns are already cognizant of the need for watershed control in the area. Solvay Process Company, which each day takes out over 2,000,000 gallons of water from Butternut Creek during the spring and summer months, has built a settling pond. The water is drawn from the Creek to wash limestone used in chemical processes at the plant.

When the water is drained off the washing area, it is piped into a 20-acre diked field adjacent to the creek. Sediments are filtered out before the water rejoins the parent stream. Inhabitants along the densely populated downstream district have the dual pleasure of not having the stream dry in summer and at the same time, avoiding the floods in spring caused by dammed up sediment, also a fish-killing threat to the excellent trout stream.

On the other side of the county, however, trouble has occurred where creek water, used to wash gravel, has been returned untreated to a stream. Serious flood problems and dangerous erosion have resulted.

In the sewage field, the present problems revolve around the antiquated city system and the number of private families and small industries that flood watershed streams, and consequently potential water supply sources, with waste materials. The county also has to look toward the day when most of the suburban areas will require full-scale sewage systems.

Community action, on a metropolitan scale with city and county joining forces, has already been taken on this phase of pollution. Early action is expected on Onondaga County's plan for sewage abatement for both the county and city, Col. A. F. Dappert, Executive Secretary of the New York State Water Pollution and Control Board, informed the clinic.

This will enable everyone in the county to breathe a sigh of relief. Onondaga Lake, a picturesque five-mile stretch of open water just to the west of the city, has been the repository of a great deal of the city's raw sewage for many years. The shores are the historic sites of Indian councils where the Onondagans and other Indian tribes formed their Iroquois Confederacy 400 years ago. Anti-pollution measures and sewage treatment plants, residents hope, will stop the flow of sewage from the city and Nine-Mile Creek, outlet of Otisco Lake. Then, perhaps, the lake will again become the swimming and recreation haven it was 50 years ago.

Depite the jam-packed gathering which stayed to the very end of the clinic, the two sponsoring groups do not feel that anything more than an initial step has been taken. Public apathy, weaned on decades of cheap, pure water in tremendous volume, must be replaced with a serious recognition of long-range expansion and supply problems. Concerted cooperative efforts of civic groups, the press, sportsmen, and professional water specialists must keep up the atmosphere provided by the clinic.

But even this initial step has brought rapid action. The opposition political party came up with strong points in favor of long-range water supply planning within hours after the meeting closed. Favorable editorial comment in both daily papers and over the area's five radio and two television stations has stirred public interest and sent reporters scurrying to official files for additional data.

Followups to carry the public education program forward on an impartial and cooperative vein are being planned by officials of the Manufacturers' Association and the Re-

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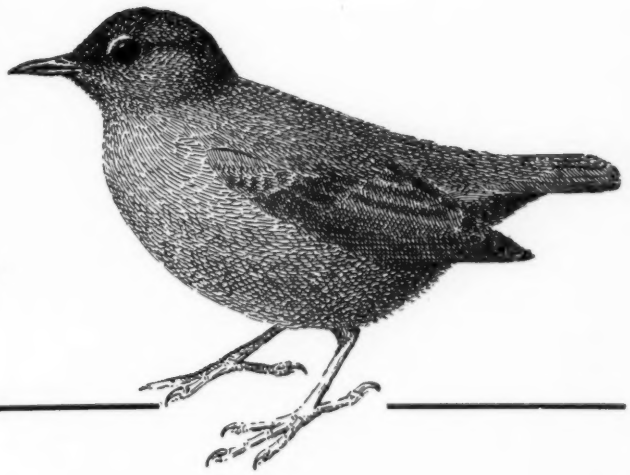
Representatives of industry, conservation, government and colleges at clinic

Attentive audience stayed to very end of four-hour session on water problems

The Little Dipper

By BOB FORBES



This western bird, about the size of a robin, winks, salutes, cavorts beneath a waterfall, and does all sorts of other unbirdlike tricks

MORE than one forester in our western mountains has been startled by a streamside bird which solemnly winked at him, bobbed up and down in a friendly salute, and then calmly entered the creek and walked around under the water. This ordinary looking bird, about the size of a robin, with blue-gray plumage, yellow bill and legs, is the American dipper or water ouzel.

The first great authority on American birds, John James Audubon, started publicizing the dipper with a scientific description in his 1839 *Synopsis of the Birds of North America.* John Muir discovered dippers for the people by writing a whole chapter on the birds in his 1894 book, *The Mountains of California.* His words about the Water Ouzels—Muir's capitalization—were literary gems dealing in detail with the lives of these "singularly joyous and lovable little fellows.

"Among all the mountain birds," Muir wrote, "none has cheered me so much in my lonely wanderings—none so unfailingly. For both in winter and summer he sings sweetly, cheerily, independent alike of sunshine and of love, requiring no other inspiration than the stream on which he dwells.

"While water sings, so must he, in heat or cold; low in the drought of summer and the drought of winter, but never silent."

Any number of bird lovers have traced the dippers' haunts throughout the western mountains — from the foothills of the Rockies to the headwaters of the Yukon River, the Aleutian Islands, and higher elevations in Lower California and Guatemala. But the birds are never found far from creeks with waterfalls, cascades, rapids and occasional quiet pools.

In altitude, dippers are found all the way from 2,000 to 10,000 feet in the Yosemite region of California. "I came upon a dipper as high in the New Mexico mountains as 11,600 feet," claims Florence Bailey.

The inconspicuous little birds will even stick it out during a mountain winter, just as high up as they can find unfrozen water. For water is essential to their diet, largely of caddis fly larvae, with aquatic worms, mosquito larvae and water beetles thrown in for variety.

Meals at any time during the day are gleaned by dippers wading in the shallows with their heads under the water, poking and probing for tidbits fastened to stones and pebbles. Meanwhile, the current of the creek erects a clear shell of water over the birds' backs.

Often a dipper will venture beyond the shallows of a stream, to spots where the water runs deep and swift, and get swept off his feet. But what's the importance of such a wetting in his busy life? He just picks himself up and heads for shore without a complaint. Perhaps the same

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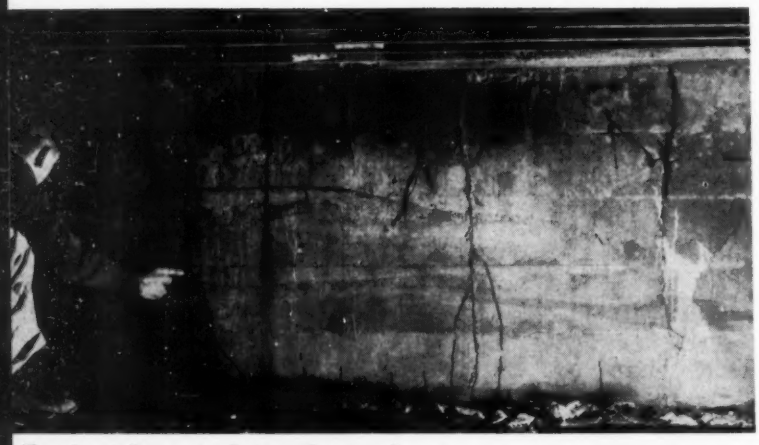
Termite C

THAT old adage "An ounce of prevention is worth a pound of cure" has always been a watchword of foresters. Especially so when fires, floods, blight and other enemies of living trees are involved.

But once a tree is cut, processed for the market, and put to work as lumber, protective measures to insure longer life and usefulness have been pretty much limited to paint, where the wood is exposed to weather, or to creosoting or other preservative treatment if the wood is to be used as railroad ties, telegraph poles, boardwalks or in bridge construction.

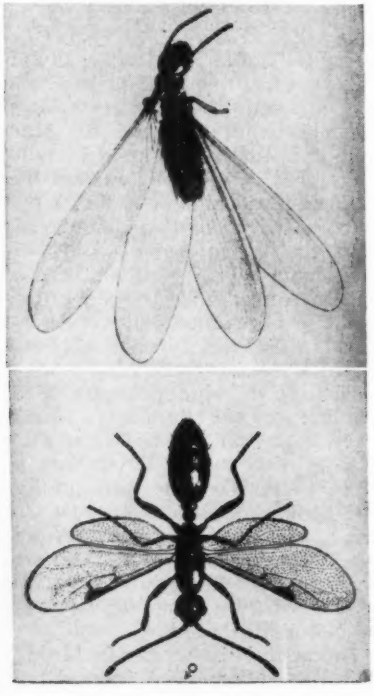
For one thing, treatment of wood is an expensive business. Most lumber used in interior construction, if properly seasoned or kiln-dried, and



Termite tubes extend toward ground for a quick return to the moisture

Sound stake, on right, was treated against attack, stake at left was not

Termite, shown in top photo, often is erroneously confused with ant, bottom



By E. JOHN LONG

Counter-attack

Photo at top of page is worker termite. Photo directly above is that of an old house borer

not in direct contact with the ground or excessive dampness, needs no special attention. It will last for decades, perhaps centuries—*provided* it is not attacked by deteriorating organisms such as termites, wood borers, powder-post beetles and other wood-inhabiting creatures.

The termite has always been with us, and no doubt always will. Paleantologists, studying the fossil remains of plant and animal life that existed on earth ages ago, tell us that termites have existed in almost their present locations for millions of years. No part of the United States today is entirely free of them, although they are much more active in the South than in the North. However, they are aggressive enough in most areas to warrant taking precautions during construction to prevent attack and subsequent damage.

Old timers ask: "Why do we hear so much more about termites now than we did when I was a boy?"

The answer, believe it or not, is: "Because today we encourage them!"

Not willingly nor deliberately, of course, but we do. Not so long ago, when much of the United States was covered with forests and every farm had a large woodlot, the natural food supplied by old tree stumps, fallen logs and other woody litter was sufficient to sustain fair-sized termite colonies. Termites actually served a useful purpose in cleaning up the forest floors, and in assisting new plants to grow.

But as forests gradually gave way to larger cleared areas, more farmland, and to suburban development, the termites were forced to turn to man's structures for their food. Then too, young second-growth wood, full of cellulose — containing sapwood, the termite's food — has replaced much of the slow-growing heartwood of virgin timbers, which were quite resistant to insects.

Again, modern design and construction practices make it easier for termites to enter buildings. Many years ago man learned to put stone or brickwork between his buildings and the ground, chiefly to make things difficult for subterranean insects. Then came concrete, and the vast war-time housing booms. To get a quick foundation, wooden forms were set up, and the concrete dumped in. The forms were left in place. Bits of left-over lumber, grading stakes, tree stumps, logs and other debris often were, and still are, buried around the foundations of buildings. This is especially true in large projects where bulldozers are used to set up a lawn area or fill a gully when grading property.

Every piece of wood left in contact with the soil becomes a wonderful nesting place for a colony of termites. Here, out of sight and out of mind, they thrive until finally, the hungry termite workers find voids in foundation walls and floors, and gain entrance to wood in the building.

So, oddly enough, it is modern housing, erected under such conditions, that are largely attacked, although older buildings in the same neighborhood inevitably will be subject to infestation if voids exist in them.

To the new home owner, the most distressing aspect of all is that he may have no idea that termites or other wood enemies have moved in on him for several years, usually not until long after the limit of legal responsibility of the contractor has expired. Termites do not give any hint of their presence except as they show themselves at swarming time or build occasional tubes in the open. When they appear as winged adults, they are often mistaken for the comparatively harmless flying ant.

Because the termite is by all odds the most destructive of wood borers, let us take a closer look at him and his habits before going on to the others, and to what housing agencies and scientists are doing in the way of counter-attacking the whole unholy crew of them.

The eastern subterranean termite (*Reticulitermes flavipes*) serves as an example of the many species which occur in this country. They are often called "white ants," but they are neither white nor an ant. In fact, the termite and the cockroach are more nearly related, having a common ancestor. During the swarming period the winged termite is easily mistaken for a flying ant. Both appear at the same time in the spring and the fall. So this may be as good a place as any to straighten out the differences between them.

Flying Termite

Both pairs of wings the same length
Wings twice as long as body
Sheds wings readily
Thick bodied: has no waistline

Makes tunnels of sand or wood fibre, from ground to nearest wood.

Winged or Flying Ant

Under pair of wings is shorter
Wings not more than one-third longer than body
Retains wings
Pinched or wasp-like waist
Does not make tunnels.

While subterranean termites are not the only kinds found in the United States, they account for about 95% of all damage done by termites to wooden structures. They are responsible, in fact, for a bill of about $75,000,000 that can be charged up annually to these original subversives. In addition, some $25,000,000 more can be charged up to powder-post beetles.

How can anything so tiny be so destructive? It's a familiar story: "Because they are well organized!" Not even ants or bees have a social order that functions as efficiently as the lowly termite, for termites have a *king* as well as a *queen,* whose sole province in a colony is reproduction.

In all there are three termite castes —the reproductives, the workers and the soldiers. Besides the primary-winged king and queen, there are two supplementary types of males and females, one with wing stubs and the other without them. The soldiers and workers are non-reproductive castes. Soldiers protect the colony against invaders (chiefly ants), and the workers do almost everything else. Both soldiers and workers are totally blind, and spend their entire lives underground or within wood, or in the earthen tubes connecting wood and the ground.

The workers really have a hard lot. They must construct the colony galleries and shelter tubes, supply food for all the colony members, feed and groom the king and queen and their young, care for the incubating eggs, and do all the work of the colony except defend it. It is, of course, the worker who also gets all the blame from humans for damage to wooden buildings and other cellulose-containing materials, like cloth, paper, books, and untreated fiber boards.

Termites actually *feed* on cellulose, which by a complicated process they are able to convert into food they can utilize. Because they will eat only the tender spring wood or cellulose, ignoring the summer or resinous wood, termites leave an unmistakable trademark — long channels or chambers that follow the grain. But you will have to open up a piece of wood to see this, because termites work always out of sight, although they may come right up to the paint on the outer surface. The original shape of the timber is not disturbed, and the infestation may not be suspected until a member gives way under load or strain.

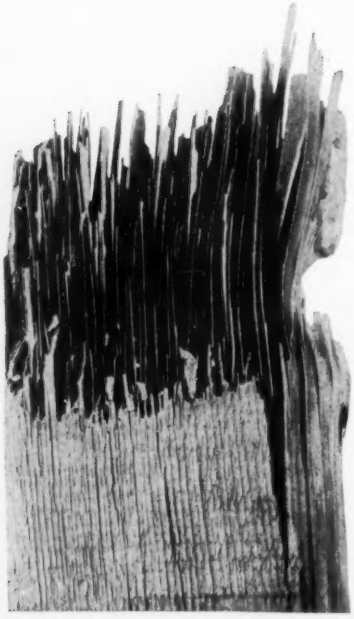
Long before man had ever heard of air-conditioning, termites had it. In fact, they need controlled conditions of moisture and temperature for survival, and will not leave the ground to expose themselves to the drying effects of air except during swarming times. During this period the new primary kings and queens take wing briefly before re-entering the earth, or a crack in your basement wall, to establish new colonies. The wingless secondary royal pairs spread out in the ground to form new colonies. Soldiers remain with the colony, and the workers move beneath the surface of the soil or, when compelled to leave the earth to reach timber above stone or concrete foundations, they build shelter tubes, through which they travel back and forth to the colony.

It is the shelter tube, plus discarded wings, that are the best tip-offs that termites may be operating on your premises, or are about to take over.

The control of termites, like other insects, is based on spotting the weak link in their life habits. Termites must have constant contact with food (cellulose) and moisture in order to live. Break this combination by blocking their passage from earth to wood in building, or vice versa, and counter-attacking measures will control them.

The latter include structural repairs in both old and new buildings by disconnecting all wood-to-ground contacts and by filling all mortar

(*Turn to page* 51)



What's left after termites have eaten all the cellulose from a piece of wood

This termite soil-testing plot is located at Beltsville, Maryland

Urge of the Walleye

By GEORGE C. MATTIS

YOU may have taken the species in numbers throughout your years of angling for him and you figure you know him well—this deep water recluse who you seldom see except at the end of your line. He shuns light, is sensitive to weather conditions, and is ordinarily sober in his behavior.

But once every year the walleye belies his reputation of being a staid hermit of the deep and dark waters, for now he casts aside his cautious ways and dons the airs of a nocturnal reveler of the gravelly shoals and the shallow, swift currents. He is not himself at all during this spring frolic of spawning, and even the experienced angler might now have difficulty in recognizing his prize game fish.

The range of the walleye extends roughly from Great Slave Lake eastward to Labrador and southward to Nebraska, Arkansas, Alabama, Georgia and North Carolina. In this vast range he is variously called wall-eyed pike, yellow pikeperch, yellow pickerel, jack salmon, glass-eye, green pike and other names of more restricted usage.

The walleye, however, is most common around the Great Lakes area, and in the waters where his species is most concentrated he puts on his annual vernal pageant which in the piscine realm is not surpassed in significance.

With the first balmy nights of late April or early May the walleyes, goaded by an impelling instinct, gather in small numbers about the edges of the lake's gravelly shoals or the mouths of the streams — the spawning grounds long ago established by their forebears. They gather in insignificant numbers at first in anticipation of the driving urge which will eventually envelop their entire adult population.

Daybreak finds them back in the deep water again, and the barren sand bars and stream inlets do not foreshadow the activity that is to come on them. On successive nights

(*Turn to page* 49)

DeWitt Nelson

The First Step Toward C

Lowell Besley

THE Board of Directors of The American Forestry Association on April 15 passed a resolution urging "all groups and individuals" to join with them in strongly supporting proposals now pending in Congress that, once enacted, will enable the Agriculture and Interior Departments to "wash out" the bulk of invalid or fraudulent mining claims on public lands in from six months to a year.

Purpose of identical bills introduced in both the House and Senate last month is to revise the mining laws to permit multiple use on the surface of mining claims, both in national forests and other public lands, and to eliminate the incentive to locate mining claims for purposes other than actual mining and related activities.

The proposed measures were introduced as the result of cooperative action by the mining industry and the Interior and Agriculture Departments. The campaign originated in The American Forestry Association when it called on representatives of the three groups last February to sit down around a table and map out a solution to a problem that has been vexing both the industry and the public alike.

Today the proposals which have the support of the Interior and Agriculture Departments, the mining industry, and a growing number of conservation groups including The American Forestry Association, would:

1) Ban the location of mining claims for common varieties of sand, stone, gravel, pumice, pumicite, and cinders and make them subject to disposal by the United States under terms of the Materials Disposal Act. (This provision is similar to the Regan Bill in the 82nd and 83rd Congresses which had the endorsement of the Forest Service.)

2) As to mining claims hereafter located, it would, prior to patent:

a) Prohibit use of the mining claims for any purpose other than prospecting, mining, processing and related activities.

b) Authorize the federal government to manage and dispose of the timber and forage, to manage the other surface resources (except mineral deposits subject to location under the mining laws), and to use the surface of the claim for these purposes or for access to adjacent land, without endangering or materially interfering with mining operations or related activities.

c) Bar the mining claimant from removing or using the timber or other surface resources except to the extent required for mining or related activities. Any timber cutting by the mining claimant, other than that to provide clearance, must be done in accordance with sound principles of forest management.

3) Provide an *in rem* procedure, similar to a "quiet-title" action, under which the federal government could expeditiously resolve title uncertainties resulting from the existence of abandoned, invalid, dormant or unidentifiable mining claims, located prior to enactment of this measure, in any given area. This procedure calls for adequate notice to mining claimants in the area involved, and a local hearing to determine any rights to surface resources that may be asserted by claim holders. If a mining claimant fails to assert rights to surface resources, or if the rights he asserts are not upheld, or if he voluntarily waives such rights, the claim would thereafter have the same status as claims hereafter located, with the government having the right to manage and dispose of the timber and forage and to manage other surface resources in accordance with sound principles of good management.

In this manner an area in which a timber sale, for example, is contemplated could be subjected to a conclusive determination of surface rights within as short a period as six to twelve months.

Identical bills embodying these proposals were introduced last month in the House by Mr. Dawson, of Utah (HR 5561); Mr. Fjare, of Montana (HR 5563); Mr. Young, of Nevada (HR 5572); Mr. Ellsworth, of Oregon (HR 5577); Mr. Cooley, of North Carolina (HR 5596); and Mr. Hope, of Kansas (HR 5742). As AMERICAN FORESTS went to press, Mr. Rogers, of Texas, Chairman of the House subcommittee on mining, and perhaps still others were preparing similar bills. In the Upper House, Senator Anderson, of New Mexico; joined by Senators Barrett, of Wyoming; Bennett and Watkins, of Utah; and Aiken, of Vermont; introduced the same measure (S 1713).

It is particularly significant to conservationists that those who have worked closely in the past with AFA and other groups in the effort to remedy mining law abuses — men like Representative Harold Cooley, who introduced the first surface mining bill (HR 7023) in the 82nd Congress, and Representative Clifford Hope and Senator George Aiken who fathered bills in the 83rd Congress for corrective mining legislation, have joined in on this proposal.

These proposals represent the answer of the Interior and Agriculture Departments and the mining industry to the growing chorus of demands by the public to correct the already widespread and growing abuses of

Correcting Abuses of Mining Laws

the mining laws that have been impeding sound land management. Public demands for corrective measures reached a new high last year with announcement by the Forest Service that only two percent of the 84,000 unpatented mining claims on national forests were producing commercial quantities of ore and that in too many cases they were being used for purposes other than mining. These 84,000 claims, the Forest Service said, cover more than two million acres and support over eight billion feet of merchantable timber worth over 100 million dollars.

Of the 37,000 claims which have actually gone to patent, only about 15 per cent have produced ore in commercial quantities. These facts demonstrate, the Forest Service said, that the mining laws are being used to obtain claim or title to valuable timber, summer home sites, or access to preferred hunting or fishing grounds—activities far removed from commercial mining operations. Moreover, with the advent of the current uranium rush, the number of unpatented claims has more than doubled in recent months.

To launch a program to clear up the irregular claims situation as called for in AFA's Program for American Forestry adopted last year, Lowell Besley, executive director-forester, in January contacted representatives of the Interior and Agriculture Departments and the American Mining Congress and proposed a conference to work out the problem under the auspices of the AFA.

The response to this proposal was favorable. Aided by an assist from the Chamber of Commerce of the United States, the groups concerned were brought together February 10 at the Washington office of The American Forestry Association. Purpose of the conference was to evolve a workable solution that would eliminate questionable claims while fully protecting the legitimate interests of both the public and the mining industry.

Working under the chairmanship of DeWitt Nelson, vice president of AFA and director of California's Department of Natural Resources, it quickly became apparent that industry representatives were primarily interested in leaving the present patent system undisturbed. (At present, approximately 200 claims go to patent every year.)

"Above all things, your prospector knows and is decidedly aware of one fact," one industry spokesman said. "That is if he works hard and develops his claims he can obtain a patent. To remove that incentive or to otherwise interfere with the patent system would, in our judgment, have an adverse effect not only on mining exploration and development but on the economy of the country at a time when more and more minerals are of vital importance."

While the industry took a dim view of previous suggestions that a miner, in patenting his claim, should purchase his timber rights, it did concede it was in full sympathy with a revised system that would enable government representatives to wash out invalid claims in a short time. The industry spokesmen also reiterated that they were against use of claims for any purpose other than legitimate mining operations, and favored giving the government the right to manage and dispose of the timber and forage on all claims hereafter located up to the time of patent. The claimant, at the same time, would be permitted to use such timber as is needed for carrying on mining activities but would be barred from removing the timber or other surface resources for other purposes.

While the Agriculture Department representatives believe that claimants should pay for timber on claims at the time of going to patent, spokesmen said that the proposals advanced by the industry as regards handling of claims was a constructive proposition and one that would materially aid in the management of public lands. At the present time, the Forest Service, for instance, cannot remove timber from claims and in some cases claimants are actually impeding management of land — including rights of way—to timber and forage on holdings adjacent to claims.

The so-called *in rem* or "quiet title" action under which the government could resolve title uncertainties resulting from the existence of abandoned, invalid, dormant or unidentifiable mining claims was also cited as a constructive move, by Agriculture spokesmen. As proposed at the conference, the new system would enable the government to "wash out" invalid claims in selected areas in six months or a year—a development that would be a decided

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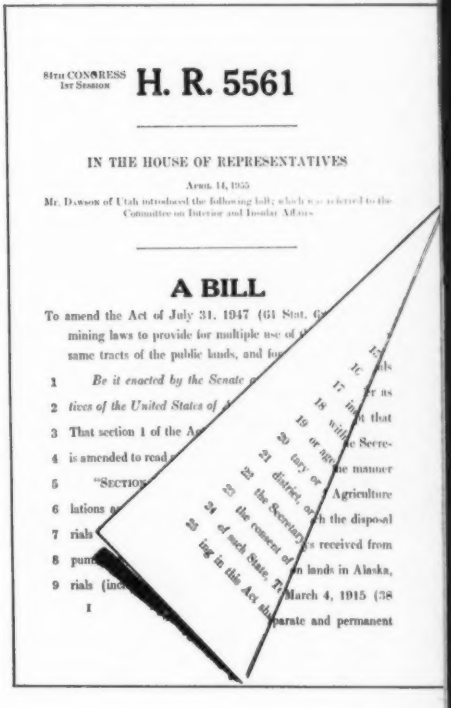

84TH CONGRESS
1ST SESSION

H. R. 5561

IN THE HOUSE OF REPRESENTATIVES

APRIL 14, 1955

Mr. DAWSON of Utah introduced the following bill; which was referred to the Committee on Interior and Insular Affairs

A BILL

To amend the Act of July 31, 1947 (61 Stat. 6
mining laws to provide for multiple use of
same tracts of the public lands, and for

Be it enacted by the Senate
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March 4, 1915 (38
parate and permanent

For three centuries logging has been a hazardous occupation, but not so today. Work now is done with brain instead of brawn

How Safety Came to Lumbering

By WALTER G. COLLINS

IS it possible to get logs and saw lumber without taking a chance? For three hundred years the answer was "no." But to-day it is being done. Lumbering, instead of being accepted with apathy, as a hazardous occupation about which little or nothing could be done, is now high on the list of those industries where a man at work is often safer than a man at home.

The story behind this change in attitude falls naturally, into a simple pattern. There have been three clean-cut periods in the history of human relations as applied to lumbering. First, there were the Dark Ages, from the inception of the industry in the early sixteen hundreds to about 1910, when State Workmen's Compensation Laws began to take form; next the Age of Awakening from about 1910 to just before World War II, during which time the mechanics of effective safety programs were pioneered from scratch, and finally, what properly may be called the Age of Achievement from about 1940 to the present.

Since the first timber was cut three centuries ago along the Atlantic seaboard, the industry has been surrounded by an aura of romance and rugged individualism. Life in the woods bred a race of hardy men, proud of their strength, agility and independence. They played lone hands, insulated as they were from the refinements, group activities and trends common to those industries more permanently located in populous areas.

A man had to be tough to take and like, the hard life of coming to grips daily with the elements and with the tangible resistance of our great forests, that stretched from Maine to Michigan and Wisconsin, to the South and to the Pacific Coast. Such a life from generation to generation, could do nothing but generate a race of men with contempt for what to them, was the softness of civilization. They had but one objective; get the logs to the mills by ingenuity and gruelling work. Once the logs were at the mills, the pressure was to get out the cut, furnish the lumber needed for the march of the pioneers, ever Westward.

With other industries as well as with lumbering, until about the turn of the present century, the safety of the man on the job was given little thought. No records were kept of the frequency or severity of industrial injuries. The human equation was secondary; the man was expected to protect himself. The idea was to get the work done and the money in the bank.

About fifty years ago, some of the more thoughtful industrialists became conscious that many costly abuses had grown up in the handling of employees and that something might and should be done about it. This was pointed up by the deluge of ambulance chasing lawyers who were growing rich, suing under common law, employers whose men were being killed or maimed on the job. In most cases, these lawyers worked on a contingent fee and costs with little if anything, going to the widows or orphans if an eventual award were made, after years in court. And the employer could never know what his liability might be.

This practical consideration, leavened by a gradually changing attitude toward the human aspects of employment, as evidenced in the mass industries during the early nineteen hundreds, started the ball rolling toward a realization that it was better business to have men on the job than in the hospital. But what to do about it? There was a lot of ineffective floundering, as industrial safety was a completely new field. Nevertheless, the rumblings were there, indicating that all industry was beginning to emerge from the Dark Ages of industrial relations.

But lumbering lagged behind. To a logger it was still sissy to play safe. You couldn't get logs without taking a chance. It was better to be quick like a cat—and tough. But often they were not quick enough; like my friend Blackie Marsh back in 1907, out on the Green River Branch of the Northern Pacific.

Blackie was head car loader on the landing. I was the chaser, handling the lines in and out of the "Tommy Moore" block and uncoupling the logs that came down the pole road. I had been on the job only a few days; but Blackie and I had become buddies. He was strong, quick and

Safe sidehill yarding, with the log blocked from rolling by tractor arch

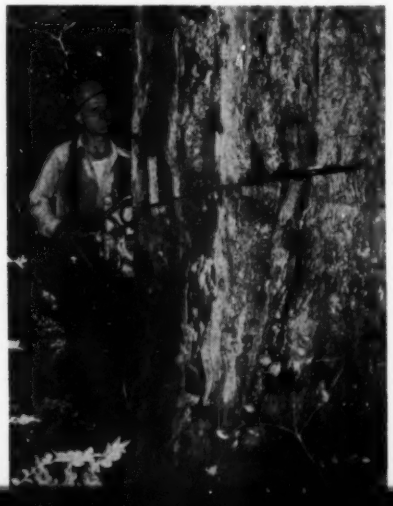
expert at putting on loads with lots of footage, that would balance on the flat cars.

Turns of big logs had been coming to the landing all morning, so it was filled with beautiful Douglas-fir, four to six feet in diameter, mostly forty feet long. Blackie was placing the peak log on a three log load —and taking a chance. He was standing directly under the center of a long log, signalling to the engineer, while parbuckling it into place. The line broke. Blackie was quick, but not quick enough. The log rolled off the car, out on the landing. Before Blackie could get into the clear, he was caught between the hurtling log and one on the landing. We laid him by the track; covered him with a tarpaulin, sent word to camp—and kept on logging.

It was all so simple, looking back over the years from where we sit today. Why stand under a log being loaded? Now, any loader stands at the end of the car or truck to give his signals, where he is safe if any-

Today's cross cutter in a safe position on the uphill side of log he's cutting

The modern chopper works with feet on ground, instead of high on springboard



In the "dark ages" of lumbering woods were literally full of unprotected men

thing lets go. But that's not the way it was done in the Dark Ages of industrial safety.

And I well recall how Shorty Olson a week or so later, failed to show up for supper. The next morning we spied his boots under a big fir. Shorty was a bucker, working close to the choppers. He wasn't quite quick enough to get away before a two hundred foot giant crashed to the ground.

And Tom McCarthy, the P.F. man working out of our landing, was another who was not sufficiently agile to live. Tom's job was to shepherd the turns of logs down the pole road, from the swing machine on the mountain. This was considered one of the most hazardous jobs in the logging woods, 50 years ago. It called for a man of cat-like qualities, as usually he would balance and dance on the lead log, jumping on and off for signals while a train of a dozen or more logs, dogged together, was in motion, twisting, turning, lurching and jerking as the heavy load was pulled to the landing by the powerful road machine. Once the

turn was delivered and uncoupled, he would throw his axe, sledge, bar and grabs into a little dugout and holding to a line from the bow, like a dry water skier, ride this little boat or "pig" as it was called, full speed, back up the pole road, swaying and bouncing from side to side. Tom missed only once; we sent word to camp about him too—and kept on logging.

A recitation of these tragic events may give the impression that employers and fellow workmen were basically more calloused and brutal in those days than they are to-day. However, that thought can be challenged. Rather, the injuries and fatalities that accompanied an admittedly hazardous occupation, were accepted as inherent in the kind of work the individual chose to follow. In lumbering, it was rough, carefree, out of doors, where every man stood on his own feet and protected himself as best he could. Men liked it and took the danger of injury and sudden death, in stride. It took years, yes centuries, to realize that after all, something could be done to make the jobs safer, without decreasing production. The processes of evolution were at work in industry, as in life and human society.

In lumbering, as in other industries during the Dark Ages, about the only relief for the widows and orphans of loggers and mill men who lost their lives on the job, came from the few hundred dollars raised by passing the hat among fellow employees of the victims. This gesture of kindness was of course, merely temporary and in most cases, covered only the cost of the funeral.

Sometimes however, the donations of fellow workers were slightly augmented by the activities of that brand of lawyers who thrived on the misfortunes of those caught in the industrial machine. The abuses of the contingent fee system, were tragic for employees and their families, as well as for employers, particularly the smaller ones, who were threatened with bankruptcy by the uncertainties and vagaries of the common law. The large companies weathered the gale by maintaining the best legal talent available to combat the skill, trickery and emotional appeal of experienced ambulance chasers.

The case of Tony Gomez, whom I knew well, illustrates how the system worked. Tony was on the railroad construction crew, shoving the logging road through precipitous country. In one of the heavy cuts they touched off a coyote hole, to loosen the ground for the station workers. Tony found one of the shots that failed to explode; he was blinded for life and otherwise horribly mangled. A sharp lawyer took his case on a contingent basis, with court and incidental costs deductible. After three years of trials, postponements and appeals, Tony got as his cut, $475 in cash. For three years he had been an object of charity; his status was little changed by the award.

About 1910, the more enlightened leaders in most industries, employees and the public, welcomed the agitation that was then afoot, for sound, definite, Industrial Accident and Workmen's Compensation laws, as a cure for the flagrant abuses that had pyramided during the Dark Ages of industrial relations.

Lumbering by then, had moved into the great forests of the Pacific Coast. Oregon passed the first Workmen's Compensation law in the area; California and Washington soon followed. Under these laws, State Industrial Accident Commissions were created, with safety inspection service and the power to regulate and enforce basic working conditions. There were definite schedules of amounts employers were obligated to pay for various types and degrees of injuries to employees, fatal or otherwise. Competent, approved medical care for industrial injuries, had to be furnished by employers. There was no longer room for the ambulance chaser. The state was in there pitching to protect the rights of employees. All lost time injuries as a matter of compulsion, were reported to the Accident Commissions and processed by them.

Naturally, there was opposition to these laws initially; some said they were radical, or socialistic, or worse. Experience has led to minor revisions, but 40 years of use has proven their basic value to all those concerned with industry, employer and employee alike. Without doubt, the introduction of Workmen's Compensation laws ended the Dark Ages of industrial relations and ushered in the Age of Awakening to human values.

Among other things, these new laws created an incentive to hold down the number of job injuries. Insurance companies were quick to enter the field of compensation protection for employers. In some states, notably California, a state-managed Compensation Insurance Bureau was created, with premiums or rates for each job classification fluctuating with actual experience. The better run companies, in cooperation with the insurance carriers, began to give serious thought to the development of safety programs on their operations.

But there was no background on which to build so for several years the efforts to sell at the employee

The log goes into the mill pond safely, with no worker having to risk his neck

level, the idea of working safely, at best were faltering. Canned slogans, posters and simple bulletin boards just about constituted the program. The words "Safety First" were plastered through industrial plants generally and for years most employers sat back smugly, believing they were going a long way in generating safety consciousness in their organizations. Actually, to the surprise of many, even such feeble efforts produced a downward trend in the frequency of injuries — enough at least, to prove that more concentrated study and action might pay off. The Age of Awakening was gathering momentum.

The larger companies—those with approximately 500 or more on the payroll, were sufficiently encouraged by early results to believe money could be saved on insurance premiums if they put more vim into the safety movement through more intensive organization of their own plants and became self insurers, thus reducing premiums that, to a considerable extent, were based on industry averages. Where this was done, the first move was usually to assign the duty of making a noise about safety, to one of the timekeepers. This man was picked because he might have a pleasing personality and the knack of getting along well with men. Unscientific as it was, this was a forward step and the cost of compensation and medical care generally, decreased; it glimpsed the possibilities from more vigorous effort.

The activities of the "safety men," as they were at first called, were broadened. Some of these men showed talent in selling safe practices both to the men and the management and initiative in devising methods that were effective in arousing the interest of the foremen in inspiring safety consciousness in their departments. General improvement throughout the industry soon led to the formation of accident prevention associations for interchange of experience and as a group, to work more closely with state inspectors and administrative officers in the preparation and enforcement of practical logging and sawmill safety orders.

By about 1940, a considerable fund of experience had accumulated. With the larger and more aggressive companies, the "safety men" had graduated into full time "safety supervisors." The pursuit of unsafe practices was in full cry; but there was still a long way to go.

Strangely, in the lumber industry more sales resistance came from the men on the job than from management. Loggers particularly, many of them descended from a long line of woodsmen, retained the feeling that they were men apart; that it was still sissy to play safe; that you couldn't get logs without taking a chance—all the old clichès reaching back into the philosophy of the Dark Ages.

When it was explained how deaths and injuries from falling limbs or "widow makers" could be minimized if loggers would wear hard hats, the old timers merely shrugged and said, "Oh Hell, how can a guy wear a tin hat in the woods?" So, at first, considerable pressure had to be exerted to get the men to protect themselves; but mostly, a smart safety supervisor

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This crew of redwood loggers worked 143,000 man hours without disabling injury

Here the head loader is not under the logs, gives signals safely from truck cab

Crisis in Our Parks

By ANTHONY NETBOY

These playgrounds are part of the heritage of each American, are the responsibility of all

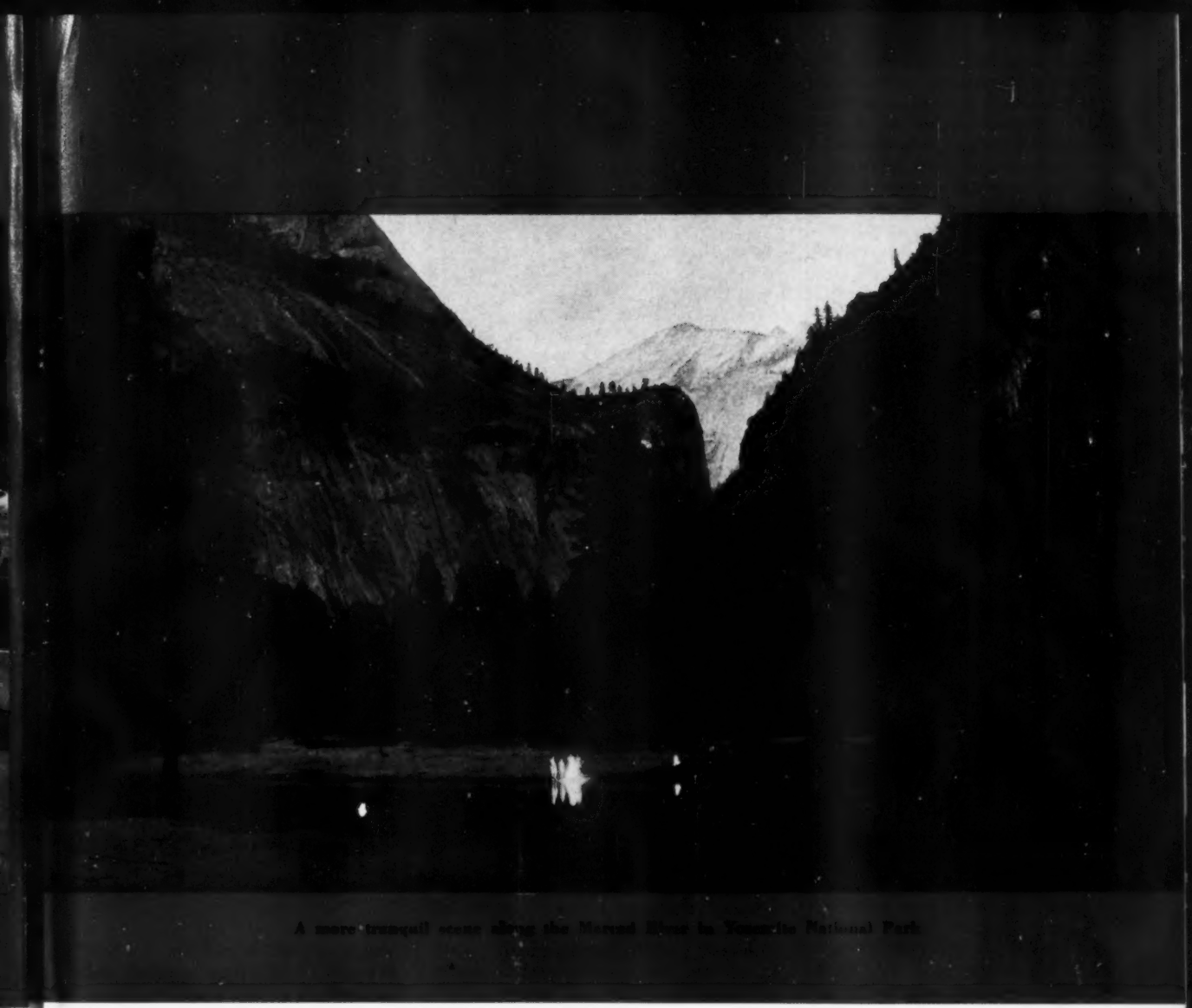
Overcrowded conditions in Yosemite National Park, Calif.

IN THE year 1870 a group of distinguished Montana citizens, escorted by an Army unit, entered the fabled Yellowstone Park country, an area of bubbling springs, exploding geysers and subterranean volcanoes. Ever since John Colter, the trapper, traversed the region around 1810, fanciful tales had been floating in the west about this mountain wilderness, but no effort had ever been made at systematic exploration.

Henry D. Washburn, Cornelius Hedges, and Nathanial P. Langford were therefore the true discoverers of Yellowstone, and it was around their campfire near the junction of the Firehole and Gibbon Rivers that the idea was born to set aside this region of geologic wonders as a national park. Men of action, they soon formed a lobby, and the result was a bill, approved by President Grant on March 1, 1872, removing over two million acres from the public domain for "a public park or pleasuring ground for the benefit and enjoyment of the people."

There were no more national parks until Congress, under the prompting of local interests, set aside in 1890 three areas of unexcelled scenic splendor in California —Yosemite (750,000 acres), Sequoia (385,000 acres), and General Grant. Mount Rainier National Park (240,000 acres) was established in 1899, Crater Lake National Park in 1902, Mesa Verde in 1906 and Glacier National Park (about one million acres) in 1910. The Act for the Preservation of American Antiquities of 1906 paved the way for the establishment of national monuments, usually smaller areas, set aside for transcendent scientific, historic or archeologic values.

The United States was the first nation to reserve on a grand scale wilderness areas solely for recreational purposes, preventing them from falling into private hands. Perhaps because it was a young country, this unique and somewhat luxurious philosophy of land use caught the imagination of the American people—at a time when large areas of forest land were being decimated by lumbermen and much of the western



A more tranquil scene along the Merced River in Yosemite National Park

range was being overgrazed and its forage plants trampled into dust by millions of cattle and sheep.

No other country has set aside such a representative display of scenic, scientific, historic and archeological exhibits.

While the idea of a national park system was early accepted by Congress, responsibility for developing park facilities to meet tourist requirements has never been fully acknowledged. In the early days, management of parks such as Yellowstone and Yosemite was haphazard. Until about World War I protection was provided by the Army, and administration by a minuscule bureau in the Department of the Interior. Funds for maintenance and development were pitifully small.

As long as the horse and steam locomotive were the universal modes of transportation, the flow of visitors even to the most popular parks like Yellowstone, Yosemite, and Rocky Mountain was a relative trickle. With the coming of the automobile, interest in the parks was tremendously increased, and the problems of maintenance, protection, and tourist accommodations progressively increased. Cross-country highways unlocked the West—the motor car enabled persons of modest means to make transcontinental journeys. As a result, pressure mounted on Congress to build roads in the parks, to provide better protection, and above all to establish an adequate administrative system. Spearheading the drive was Stephen Mather, a prominent California businessman, whose consuming hobby was the national parks. A National Park Service was finally created in the Department of the Interior in 1916 and during the rest of his life, Director Mather (who died in 1930) built up an organization that became a model of public service. He wormed out of Congress increasing appropriations, persuaded friends and business associates to invest in hotels, transportation systems, and other facilities, and sometimes even ventured his own money. Mather's contribution to the national parks was truly monumental.

Today there are 28 national parks and about 85 national monuments. All the national parks except Shenandoah, Great Smoky Mountains, Everglades, Acadia and Mammoth Caves are west of the Mississippi, while the national monuments are scattered throughout the country.

These are the great outdoor sanctuaries and playgrounds of America, preserved as far as possible in the primeval state. No harvesting of timber, grazing of domestic animals, hunting or mining of minerals is permitted. The wilderness is undisturbed. Plants die and trees die and animals live out their span of years unmolested (except in rare instances) by man's hands. Only natural forces change the complex biological community, slowly and almost imperceptibly, even as they change the landscape itself.

"This scheme of land use," says Freeman Tilden, "so far removed from the average person's economic experience, glancingly seems strange and remote. And so it is. It is a new theory in the world, of management of the public land for a superior kind of pleasure and profit; for the perpetuation of the country's natural and historic heritage, untarnished by invasion and depletion other than that of invincible time."

The parks afford us a unique and extraordinary kind of experience. Their scenic and geologic phenomena reveal nature in immensely varied and often phantasmagoric moods. In that deep and wide cleft in the earth called Grand Canyon, we may revel in the beauty of rocky battlements carved, as if by a giant sculptor's hand, in myriad shapes and forms, and daubed in prismatic colors, ever-changing and ever new. In Yosemite we walk in a wilderness of light, to use John Muir's metaphor, looking out upon tier upon tier of granite cliffs, wreathed in clouds or mantled with snow, formidable breastworks that humble the spirit and speak to us of the magnificence of the Lord of Creation.

Mount Rainier National Park takes us to a land of perpetual snow and ice, where the winds play eternally, and the shooting rivers run full with the milk of crushed boulders. Olympic Park is the forest primeval, where the Douglasfirs, spruce and hemlocks, 200 to 300 feet tall and up to 20 or more feet in diameter, are always drenched with mist, the sunlight filtering dimly through the overhanging, moss-covered branches, and the forest floor thick with the boles of rotting trees, new plant life growing upon the dead. Puncturing the almost unbroken forest are azure-blue mountain lakes, flowing serenely and undisturbed. Here the wild geese rest in their autumnal journeys.

Equally spectacular is Yellowstone, an area of thermal activity unparalleled in the world. Here we are transfixed by the dramatic play of numerous geysers, shooting their foamy spray high into the air, and sometimes on a clocklike schedule; bubbling springs that scald the hand when touched; and pink volcanic mud pots, restlessly forming miniature clayey castles. Yellowstone's warm pools, lit with algae, are a painter's delight with their opalescent blues, luminous yellows and pellucid greens.

The national monuments preserve gems of geologic rarity, like the Craters of the Moon in Idaho, where the treeless landscape, black and foreboding, is strewn with fragile volcanic formations; or Dinosaur with its petrified bones protruding from the rocks lying along the Green River; or the Petrified Forest, where petrified trees of virgin mixed forest from the distant Triassic lie scattered, willy nilly, some as whole logs and others in broken fragments.

Since the end of World War II the national parks and monuments have been America's prime tourist attractions, thanks to the universality of the automobile, longer vacations and larger incomes. The visitor count rose from half a million in 1917 to three million in 1930 and 21 million in 1941. During the war years, the number dropped to seven million, owing to gas rationing and other factors. Since 1946 prewar records have been shattered each year. In 1954 about 48 million persons visited the national parks and monuments.

They come mostly in summer, and usually travel long distances. For example, of the 750,000 persons who visited the south rim of the Grand Canyon in 1952, 46,000 were from Illinois, 31,000 from Ohio, and 26,000 from Michigan. They come in all manner of conveyances — in Cadillacs, Fords, Plymouths and Chevrolets; in jalopies, trailers, and buses. Many are on packaged tours arranged by the railroads, and stay at luxurious hotels. Others are working class families who camp along the way, cook over a wood fire, wash their clothes in the streams and sleep in tents. A large proportion stay in housekeeping cabins or eat in park restaurants.

Most of the visitors are city folk. Hemmed in all year by steel and concrete, they find an unusual atmosphere in the parks, a wilderness world with which they have lost affinity. The spacious valleys, towering virgin forests, massive mountains and unfamiliar animals are awesome and bewildering. They tread warily along the well-marked nature trails, gaze at the stupendous upthrusts, and peer fearfully over the deep canyons.

The parks have become a necessity of American life. They enable millions of people to savor for a day or two, at most a week or so, the wilderness which to our ancestors, the pioneers, was a daily experience. Untrammeled nature soothes ruffled nerves, invigorates the spirit, and infuses a sense of peace and harmony. Even the insensitive may catch a glimmer of its divine secrets.

Such are the values of the parks. A vacation in Yellowstone, the Great Smoky, Yosemite, Glacier or Grand

This photo was taken on the morning of July 5, 1947. About 17,000 campers spent previous night in the Yosemite Valley

Canyon may be remembered for a lifetime.

It is obvious, however, that, while the parks are becoming more and more precious to the American people, their custodian, the Congress of the United States, is sadly neglecting them. Appropriations have been steadily less adequate to cope with increasing use.

In recent years Congress has made about $30 million available annually to the National Park Service, or less than a dollar for every visitor. These sums cannot keep facilities in good repair, go far in extending or modernizing the highway system, or pay for enough rangers and supervisory personnel to insure the safety and comfort of tourists and protect the scenery. So deficient is the Service in manpower that at least $500,000 is lost annually because there are not enough rangers to man fee-collection points on a full-time basis. Fees collected from visitors as well as royalties from concessions are returned to the Treasury.

Although the number of visitors has increased well over 100 per cent since 1941, Park Service employment is actually much less in man-years than it was 15 years ago. As a result of congressional failure to provide needed operation and maintenance funds, buildings and grounds in many parks are deteriorating, roads are falling into disrepair, utilities are inadequate and sanitary conditions are sometimes appalling—the Public Health Service, for example, has threatened to close Yosemite because of substandard sewage.

In addition to rapid deterioration from within, the parks are menaced by mounting pressures from without. A valiant battle is being fought by conservationists against the Bureau of Reclamation's proposal to build Echo Park dam which would inundate part of Dinosaur National Monument, and ruin the beautiful valley of the Green River.

In northern Montana the dam builders have had their eyes on a bit of scenery called Glacier View. If built, this project would also flood a breath-taking valley and mar an integral segment of Glacier National Park.

Lumbermen covet the billions of feet of high-grade timber in Olympic National Park, and periodically marshal their forces to persuade Congress to amputate its boundary and turn some of the land back to the Forest Service, from whom they would be able to purchase the stumpage. Up to now, all efforts to dismember Olympic have been resisted.

Attempts to disrupt the principles of park management are also relentless from the outside. They take the form of pressures to build dams, cut timber and graze cattle, and introduce commercial attractions that destroy the harmony and beauty of the wilderness. Local groups, for example, want to build a chair lift in Rocky Mountain Park and a cable tramway on Mount Rainier, thus creating winter attractions. Embattled defenders of the parks must constantly ward off these invasions.

Lack of protection has intensified the vandalism problem. Visitors cart away souvenirs of unusual rock formations, chip off pieces of stalagmite from caves, pocket small objects from historic buildings, break exhibits, litter mirror-like pools with bottles and tin cans, and carve their names on Indian pictographs. Even the do-gooders take liberties with the scenery. An evangelical sect a few years ago sent its men out to paint warnings of the hereafter on rocks along the exquisite Going-to-the-Sun Highway which crosses Glacier National Park. There was nobody to stop them.

Yosemite and Yellowstone, the most popular western parks, are taking a heavy beating from the more than a million annual visitors.

Consider Yosemite. Every summer week-end long lines of cars converge upon the park from Merced and Fresno. Accommodations are hard to obtain at the relatively few inns, lodges, and slum-like cabins. Rangers are overworked, harassed, tired. One has to wait in long lines to buy gas or groceries. Thousands of people camp along a restricted spot on the beautiful Merced River in Yosemite Valley. Garbage pails are overflowing; clothes hang on lines strung between the trees. Camera fiends crawl up and down the ledges.

(*Turn to page* 46)

Austin Cary

Yankee Peddler in Forestry

By FRANK HEYWARD, JR.

Part I

IN 1917 a shrewd, native born New England businessman-forester first visited the pinelands of the South. It was a lucky day for southern forestry. Quick to perceive the timber growing advantages of the vast expanses of the southern pine region, Austin Cary dedicated the last nineteen years of his life to awakening southern wood using companies to the possibilities of private forestry. He was successful to a remarkable degree, and his accomplishments in the fields of fire protection and management comprise a truly outstanding contribution to forestry in the South.

Austin Cary was born in Maine in 1865. He received his A.B. and A.M. degrees at Bowdoin University and studied biology at Johns Hopkins and Princeton Universities. He served as instructor at Bowdoin in the Department of Geology and Biology and also for a short time on the faculty at the Yale School of Forestry. He was awarded the Doctor of Science degree at Bowdoin in 1922, twelve years after having been appointed logging engineer for the U. S. Forest Service.

At the time of his first trip to the South in 1917, there were not a dozen industrial forestry operations in the entire region. Liquidation was the main idea prevalent among the sawmills. The paper industry consisted of about a dozen small mills, widely scattered, whose combined wood consumption did not equal that of any one of the larger mills operating today. A man by the name of Henry Hardtner, president of the Urania Lumber Company, in north central Louisiana was generally conceded to be a visionary and an eccentric because of his claim that his efforts to grow a second generation of pine trees were succeeding.

Ghost towns were numerous at that time, being exceeded in number only by blackened stumps on the millions of acres of cut-over, burned-over land extending from Virginia to Texas. The very year of Cary's first visit, there was held in New Orleans the Cut-Over Land Conference of the South. Purpose of the conference was to discuss a means of putting to some gainful use the 92 million acres of land from which the bulk of the timber had been removed.

This was the South when Austin Cary, logging engineer, first made its acquaintance. His great common sense, general forestry knowledge, and keen perception in the woods made him an outstanding forester. His integrity, insistence on complete freedom of bias, and a high degree of tolerance for the other fellow's opinion made him an outstanding man. Lastly, his business sense, philosophy of economy and free enterprise, and absolute sincerity made him an ideal person to gain the confidence of the most hard boiled executives.

As would be expected, Cary's first efforts were in the field of fire protection. To this end he spent much time assisting in first one state and then another encouraging the formation of state forestry agencies. At that time there were forestry departments in only North Carolina, Texas, and Louisiana.

Cary was greatly interested in the possibilities of livestock supplementing the timber crop, and his files contain numerous letters from specialists in this line.

In the field of gum naval stores Cary made outstanding contributions. His well conceived pilot type experiments fairly dotted the states from South Carolina to Alabama, and much valuable information was provided the industry by a constant flow of trade journal articles. One series of such articles was based on a trip to the Landes region of France where Cary was sent by the Forest Service at the request of the naval stores industry.

It was in the field of industrial forest management, however, that Cary made his most far reaching contributions to southern forestry.

His initial contacts with industry, both by correspondence and made in person, were characterized by a humbleness and sincerity which won for him the attention of the busiest businessmen, and his reports of forest properties displayed such complete understanding and appreciation of business principles that he soon won a place of high esteem in the minds of industrial executives. This fact is very apparent throughout his files. A list of Cary's correspondents would comprise a "who's who" of the southern wood using industries.

Frequently Cary prepared growth curves based on stem analyses for specific stands of timber. Throughout the region he also established dozens of growth and thinning plots on which he made periodic observations. He was always ready to record in his ever-handy notebook some observation or statement from anyone deemed to be reliable, whether the person was a truck driver or company president. His notes throughout the years filled dozens of standard Forest Service notebooks. These were "filed" in an old steamer trunk beside his desk. Frequently a new acquaintance would feel flattered when asked to repeat a certain statement while Cary took longhand notes—that is until it was found out that this was

merely standard Cary procedure!

In 1917 Cary wrote Professor H. H. Chapman, of Yale University, that he was to begin a study of southern conditions for the Forest Service. Chapman answered, "My delay in answering yours of October 3 arose from the fact that you did not sign your letter, and I was not acute enough to guess who wrote it." Chapman also wrote that Reginald D. Forbes, Yale 1913, had just been appointed state forester of Louisiana. He stated further, "He hasn't as yet much information except what he learned while a student in the South with me, but I should look him up."

A letter shortly afterward from R. D. Forbes to E. O. Siecke, state forester of Texas (copy being in Cary's files) throws additional light on the status of southern forestry at that time. Forbes wrote: ". . . It seemed to us (Forbes and Cary) highly desirable that the foresters of the South, scattered as they are, should keep in touch with each other and if possible harmonize their efforts to add to forestry knowledge and to formulate policies for our work."

Cary's first southern work was a visit to the lands of the Southwestern Settlement and Development Company. In his report on the inspection of the property he made strong recommendations towards adopting some measure of fire protection. After his Texas trip, Cary received a letter from State Forester Siecke from which the following excerpt was taken: "I regret that it will be inadvisable for me to sell you the increment borer, but I will do the next best thing and that is to loan it to you for as long a period as you have need of it." Evidently forestry tools at that time were even more scarce than foresters!

The early thinking of the lumbermen on forestry is well brought out by a report in the Cary files written in 1920. The report was prepared by the Forestry Committee of the Southern Pine Association. "There is no disposition on the part of thinking people to hold the lumbermen responsible for the condition, (depletion of forests) because it is recognized by those who give the matter open-minded consideration that the public itself, which consumed the lumber, is as much responsible for the cutting of the forests as those who engaged in the business of supplying the public's demand. Furthermore, the reasons why individual citizens cannot engage in the business of reforestation seem to be very generally misunderstood. It is admitted that it requires much too long a time to mature a crop of timber to make it possible for any individual to engage in any such an enterprise for his own personal profit. . . . So long as excellent tracts of fine, virgin yellow pine conveniently located to the mills could be purchased from $3.00 to $6.00 per thousand feet, it was, of course, manifestly impossible for any individual to give serious consideration to the encouragement of second growth. As the value of timber increased considerably during the war, it is now possible and in our opinion will be good business judgment, for timber owners to give serious thought to the things which may be done to protect and encourage second growth upon lands which are not likely to be immediately needed for agricultural development. . . .

"Because of the long-time investment, and the hazard involved, as well as uncertain taxes and indefinite returns in the end, the stage has

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AUSTIN CARY AS I KNEW HIM

By William B. Greeley

I WARNED my bride of three weeks that her dinner guest would be a rough diamond. Cary had come down to New Haven from the North woods; and I wanted to retrace some of our old snow-shoe trails in the upper Androscoggin and to hear his salty comments on the world at large.

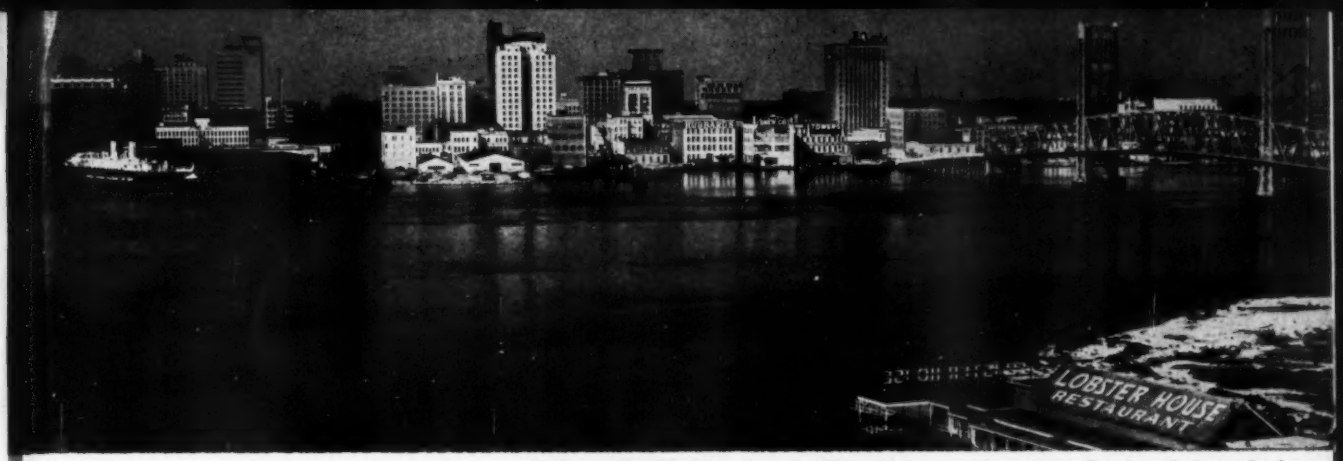
When we returned from dinner to the living room, Cary quickly shed his coat, unbuttoned his vest and stretched out on the sofa. Soon he muttered something about rubbing the hide off a heel on the last snow-shoe cruise and began fumbling with a shoe. While I struggled to restrain the mirth aroused by the arched eyebrows of the lady across the room, Cary kicked off one shoe after another, relaxed in complete comfort and began a running fire of comment on current publications and doings in forestry. I recall that he tore to pieces someone's recent estimate of coming shortages of pulpwood in the northeastern states. He summed it up in down-east vernacular, emphasized by vigorous thumps on the wall adjoining. "Bill, the hull kit and kaboodle ain't worth a tinker's damn."

Cary was as much of a non-conformist in forestry as in social customs. He was a rugged individualist if there ever was one. His forestry was largely self taught in the woods of his native New England. This shaggy, red-bearded man from Maine was well read and could hold forth on "book forestry" with the best of them; but he had little use for the classical precepts and theories of Europe. He learned his own silviculture and management in the hard way—from his years in the woods and his exceptionally keen powers of observation and analysis.

Cary was a remarkable teacher. He endeared himself to students by his pithy, homely way of putting things and by his practical, down to earth Yankee mind. He was always at his best charging through the woods, axe in hand, with students or land owners; and I doubt if any one has been more successful in getting hold of men under their own trees and selling them on forestry. He could systematize things, too. His Manual for Northern Woodsmen is still a Bible for the craft.

Cary was one of the great early leaders in American forestry, not in official organizations or programs but as an individualist in the woods. He started several New England pulp companies on long range management, with land holdings and cutting practices that would carry their planned production. Later, as a roving missionary in the Southeast, he laid much of the ground work for the piney woods forestry and naval stores orcharding of today.

There was a warm heartiness about the man that won him hosts of friends; but I will always remember his shrewd and pungent criticisms. Cary was a realist who loved to puncture balloons. "Get down to earth, man!" he would say. "Go back to the woods and get your facts straight."



Jacksonville, Florida, site of AFA's 80th annual meeting October 2 through 6

Trailways to the Sun

MEMBERS who haven't already done so should draw a circle around the dates of October 2, 3, 4, 5 and 6 on their calendars, for that will be the week of the 80th Annual Meeting of The American Forestry Association at Jacksonville, Florida.

With a full slate of committees now working and a program rapidly shaping up under the direction of General Chairman X. L. Pellicer, the success of this sight-seeing conference in the Deep South—the nation's new capital of conservation — already seems assured. For the AFA, all roads will lead to Jacksonville come October 1.

Accordingly, it is the intention of Mr. Pellicer's committees to introduce AFA visitors to both the historic and modern versions of the South. For example, a tour of historic St. Augustine, the oldest community in America—its famous fort, ancient homes and beautiful shrines — will also include examples of sound forest management, research, and the operations of new and modern pulp and paper companies. In this way the visitors will be given a close hand look at the tourist attraction for which the South is justly famous and its examples of modern industrial genius for which it has now become equally famous.

The meeting will open on October 2 with a full day of talks and discussion by national forestry leaders. Three days of guided tours will follow.

Key committees assisting Mr. Pellicer are:

General committee: X. L. Pellicer, St. Augustine National Bank, St. Augustine, chairman; Albert Ernest, St. Regis Paper Co., Jacksonville; A. D. Davis, Winn-Lovett, Inc., Jacksonville; G. G. Ware, First National Bank, Leesburg; Kirk Sutlive, Union Bag and Paper Co., Savannah, Ga.; Ted W. Earle, Gair Woodlands, Inc., Savannah; Earl Potter, International Paper Co., Mobile, Ala.; R. C. Brant, Jr., St. Joe Paper Co., Tallahassee; Carl Brice, Archer; C. H. Coulter, state forester, Tallahassee, secretary; and James Prestridge, Southern Cypress Manufacturers Assn., Jacksonville, treasurer.

Program committee: Kenneth B. Pomeroy, Lake City, chairman; Harley Langdale, Jr., the Langdale Co., Valdosta, Ga.; H. J. Malsberger, Southern Pulpwood Conservation Assn., Atlanta; J. Myers, Forest Farmers Assn., Atlanta; E. L. Demmon, Asheville, N. C.; Dr. Wayne Reitz, president, University of Florida; Justin Weddell, Florida Forestry Assn., Pensacola; R. N. Hoskins, Seaboard Air Line Railroad, Norfolk, Va.; and C. H. Coulter.

Tours committee: George B. Williams, Turpentine & Rosin Factors, Jacksonville, chairman; Clarke Mathewson, St. Marys Kraft Corp., St. Marys, Ga.; Seaman Hudson, Container Corp., Fernandina Beach; A. D. Nease, St. Augustine; Carl Ray, Jr., Silver Springs; Ernest Davis, Rayonier, Inc., Fernandina Beach; and Fred Lightsey, St. Regis Paper Co., Jacksonville.

Publicity committee: C. T. (Bill) Parsons, Southern Lumber Journal, Jacksonville, chairman; Edward C. Roe, Cummer Sons Cypress Co., Jacksonville; Ed Lorimier, Jacksonville Chamber of Commerce; Robert Dow, Jacksonville Journal; Sam Butz, Florida Times-Union; Ken Small, Radio Station WPDQ; and Milton H. Bryan, U. S. Forest Service, Washington, D. C.

Printing committee; Leon Smith, St. Regis Paper Co., Jacksonville, chairman; S. A. McLucas, Record Press, St. Augustine; and Sam Grimes, Respess-Grimes Engraving Co., Jacksonville.

Exhibits and displays committee; Clem Kaufman, School of Forestry, University of Florida, chairman; Justin Weddell, Pensacola; Earl Brown, Florida Chamber of Commerce; J. Ed Moore, Florida Forest Service, Tallahassee; and Howard Doyle, Southern Pulpwood Conservation Assn., Macon, Ga.

Housing committee: Frank Winchell, Tourist and Convention Bureau, Jacksonville, chairman; and L. J. Penney, Florida Chamber of Commerce, Jacksonville.

Arrangements committee: Harold Colee, executive vice president, Florida Chamber of Commerce, Jacksonville, chairman; W. T. Lane, Atlantic National Bank, Jacksonville; Joseph H. Riggs, Florida National Bank, Jacksonville; J. E. Davis, Winn-Lovett, Inc., Jacksonville; Sen. Harry Stratton, Callahan; Gert Schmidt, Florida Ford Tractor Co., Jacksonville; R. B. Lipscombe, Barnett National Bank, Jacksonville; and Ed Lorimier, Jacksonville.

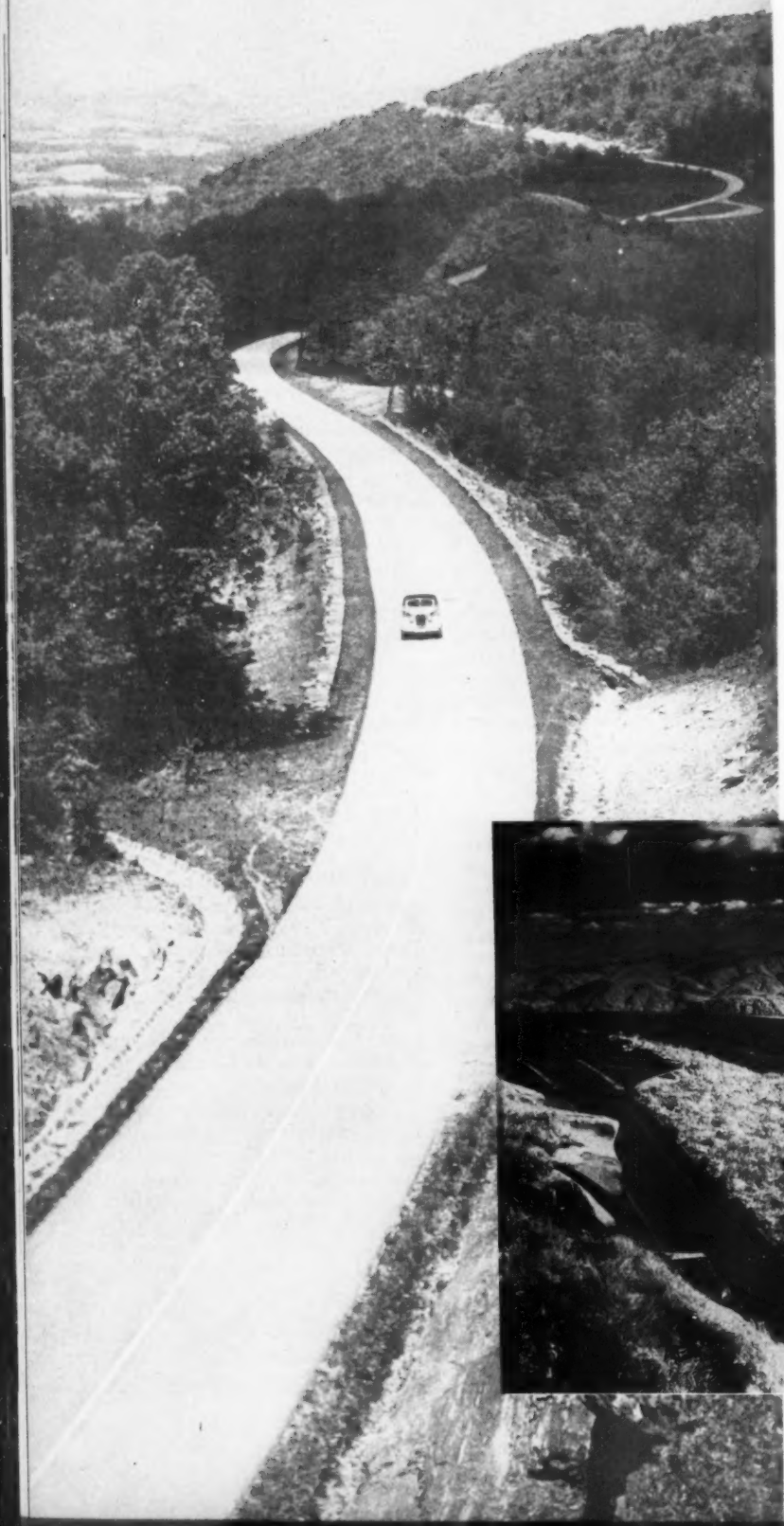
ROAD ROUTES

IF YOU like to drive, or to ride the bus lines, Jacksonville is just about as pleasant an objective as you could hope to find, and a good part of the fun is getting there via some of modern Dixie's fine new highways.

No matter where you live in the United States, a trunk road leads to "Jax," as the Floridians call their second largest city. From many places there is a choice of good routes, some of them traversing the nation's two most visited national parks — the Shenandoah and the Great Smokies.

As for scenery and weather, both are at their best throughout the mid-South in October, particularly in the mountain forests draped in their vivid autumn colors. So why not allow a few extra days, before or after the 1955 Annual Meeting of The American Forestry Association, October 3-6, to sample a little of it, along with some of those delectable Southern dishes that you will find almost anywhere along the way?

At the request of AMERICAN FOR-



At left, a typical section of the famed Blue Ridge Parkway. Below, Forney Ridge parking area on Clingmans Dome Highway in Great Smoky Mountains National Park

Florida's second largest city is easily accessible by bus or car and there are plenty of things to see along the way

TO JACKSONVILLE

ESTS, the American Automobile Association has selected a "baker's dozen" roads to Jacksonville. They are not the only routes, nor are all of them the speediest. They were especially chosen for their scenic beauty, as well as contrast with each other, in order that those who take one route to Jacksonville might have an entirely different way to return. In addition to the Shenandoah and the Great Smokies National Parks, several of the selected routings pass through or near the great dams of the Tennessee Valley, and a large number of national monuments and state parks, each with its special scenic appeal or historic interest.

As a matter of convenience, let us give each routing a number, which will not necessarily coincide with the U. S. or state numbers to be followed. Here they are, with details as to actual roads later in the article:

Tour 1) New York (or New England) via Norfolk, Charleston, and Savannah to Jacksonville.

Tour 2) New York (or New England) via Harrisburg, Skyline Drive, Blue Ridge Parkway, Asheville and Augusta to Jacksonville.

Tour 3) Cleveland, Pittsburgh, Skyline Drive, Blue Ridge Parkway, Asheville, Augusta to Jacksonville.

Tour 4) Cleveland, Pittsburgh, Skyline Drive, Roanoke, Greensboro and Savannah to Jacksonville.

Tour 5) Detroit, Cincinnati, Knoxville, Great Smokies and Athens to Jacksonville.

Tour 6) Detroit, Cincinnati, Knoxville, and Atlanta to Jacksonville.

Tour 7) Chicago, Indianapolis, Louisville, Knoxville, Great Smokies and Augusta to Jacksonville.

Tour 8) Chicago, Nashville, Chattanooga and Atlanta to Jacksonville.

Tour 9) St. Louis, Nashville, Chattanooga and Atlanta to Jacksonville.

Tour 10) Memphis via Muscle Shoals, Columbus, Georgia, to Jacksonville.

Tour 11) Memphis via Tuscaloosa and Montgomery to Jacksonville.

Tour 12) Shreveport (or Dallas) via Vicksburg and Montgomery to Jacksonville.

Tour 13) Houston via Baton Rouge, New Orleans, Mobile and Tallahassee to Jacksonville.

These follow all-weather routes, many of which have only recently been widened, straightened and repaved. Wooden bridges and ferry crossings, in almost every instance, have been replaced with modern steel and concrete spans. As for food and lodging (very reasonable in October), places that display AAA, Duncan Hines, Quality Courts, Superior Courts, etc., signs are usually above average, although sometimes an "independent" tops them all. Experienced travellers usually look around a bit before they sign up for the night, or sit down to a meal.

Tour 1

No matter how you leave New York City (George Washington Bridge, Holland or Lincoln tunnels, or by ferry) head for the New Jersey Turnpike, a freeway that will well repay the $1.75 toll charge. It leads directly into the new Delaware River Bridge, and U. S. 13 southbound through the Del-Mar-Va peninsula, a beautiful region of truck farms and tidal streams where fishing, crabbing and clamming may tempt you to stay for a day's sport.

At Kiptopeke Beach, near the tip of the peninsula, the most modern ferryboat service in the East will take your car to Little Creek, Virginia. Five large steamers make 22 round trips daily, operating around the clock. U. S. 13 goes around Norfolk. Stay on U. S. 13 to Suffolk, the peanut capital, and Windsor, where U. S. 17 is picked up. Continue on

Historic graveyard in S. C. surrounds ruins of Biggin Church, founded in 1706

Hampton plantation house, built in 1730, home of famous Rutledge family of S. C.

U. S. 17 through Charleston, S. C. (the bridge over the Cooper River is now free), to the outskirts of Savannah, where U. S. 17A offers a shortcut over the new Savannah River Bridge. The rest of U. S. 17 through Georgia and northern Florida is level, new road, that brings you right into Jacksonville before you know it.

Tour 2

From New York, U. S. 1 will take you to Elizabeth, beyond which pick up U. S. 22. This is an excellent road through some of the finest farm land in the East. By-pass Harrisburg on U. S. 230 to the East Harrisburg interchange. This gives you a chance to try a section of the famous Pennsylvania Turnpike, first of the type, to Carlisle, the home town of "Molly Pitcher" and once an outpost protecting the eastern colonies from Indian raids.

If you want to see Gettysburg battlefield, detour via Penna. 34, but the tour continues via U. S. 11, the famous "Valley Route" that leads through the apple country to Winchester, Virginia. Here take U. S. 522 to Front Royal, the northern entrance to Skyline Drive. Food and cabin facilities on the Drive are open until October 25th.

The Drive climbs right up to the crest of the Blue Ridge, and runs along it for 150 miles, the entire length being in Shenandoah National Park. This scenic road continues under the name of Blue Ridge Parkway, with a few paved detours where sections are still under construction, all the way to Asheville, North Carolina, a beautiful mountain resort.

South of Asheville U. S. 25 winds down through the mountains of North and South Carolina to Augusta, favorite golfing place of the President, and Ludowici, Georgia. Here our route picks up the fast inland "Tobacco Trail," or U. S. 301, which is followed to Callahan, Florida. Be sure to continue from here on U. S. 1, because U. S. 301 bypasses Jacksonville.

Tour 3

From Cleveland, Ohio, Route 14 to Edinburg and Ohio 18 will get you around Youngstown without delay, through very pleasant farming country. At North Jackson pick up the new Ohio Turnpike, which blends right into the Pennsylvania Turnpike, with only a stop for toll. Thus Pittsburgh is completely bypassed. Those joining the tour from Pittsburgh may follow U. S. 30, the Lincoln Highway, to Irwin Interchange.

At Breezewood, Pennsylvania, leave the Turnpike for Penna. 126, picking up U. S. 522 just north of the Maryland line. Berkeley Springs, West Virginia, has some pleasant old hotels under tall trees, and its waters have been famous for their curative powers since George Washington's times. At Winchester the tour joins U. S. 522 and proceeds southward on the same course as Tour 1. A variation (Tour 4) is to take U. S. 220 at Roanoke, Virginia, and follow it, via Greensboro, North Carolina, through the heart of the cotton and tobacco country, to Rockingham. Thence U. S. 1, U. S. 15, and U. S. 17Alt. will take you to Savannah and on to Jax.

Tour 5

It is almost a straight course south from Detroit to Jacksonville if you go via the Great Smokies National Park. U. S. 24 to Toledo, U. S. 68 to Xenia and U. S. 42 will put you in Cincinnati. Thence via U. S. 27 to Paris (the Kentucky one!). U. S. 227 will take you around Lexington, and through some of the finest horse farms of the Blue Grass region, to Richmond. Thence via U. S. 25 and 25W, to Lake City, Tennessee, where a short detour to Norris Dam and Big Ridge State Park is worth a couple of hours' time.

From Knoxville, Tennessee 73 and U. S. 441 wind upward to Newfound Gap, 5,063 feet above sea level, in the heart of the Great Smoky Mountains. There are grand vistas in every direction, and every towering peak is clothed in rich forests which, in October, blend the green of pines with the browns, yellows and reds of millions of deciduous trees.

At Cherokee, North Carolina, headquarters of the Cherokee Indian Reservation (yes, there are still real Indians in the East), you may want to halt long enough to see the Indian School and native crafts shop. Pick up U. S. 19 here for a short distance, then N. C. 28 to Franklin, and U. S. 441 to McRae. U. S. 23 and U. S. 1 will take you the rest of the way through Georgia and Florida right into Jacksonville.

Tour 6

This is a variation of Tour 5 from Detroit, and follows the same course

This old road once was the "King's Highway" between Georgetown and Charleston, S. C., in Colonial days

Historic St. Pauls church in Richmond, Va., from where Jefferson Davis gave orders for evacuation of the city

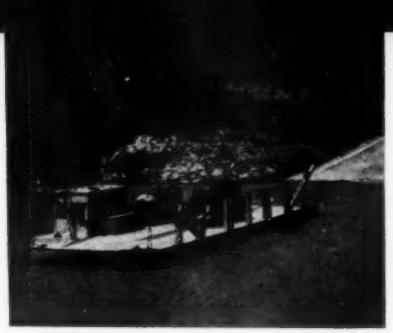
to Knoxville. Here, instead of turning east to the Great Smokies, bend southwest via U. S. 129 and U. S. 411 to Cartersville, Georgia, and thence via U. S. 41 to Atlanta. Here you may want to detour 16 miles east to see famous Stone Mountain (U. S. 78). If not, the Cyclorama of the Battle of Atlanta during the Civil War, one of the largest paintings in the world, is not far from the center of town in Grant Park.

South of Atlanta, on U. S. 41 near Jonesboro, is "The Fair of 1850," a museum exhibiting Southern culture in eight original buildings of hewn timber. At Barnesville, switch to U. S. 341, which by-passes Macon, and continue to McRae, again picking up the latter part of Tour 5.

Tour 7

Chicago motorists should head first for U. S. 41 in Hammond, Indiana, following it due south until it merges with U. S. 52. Then stay with U. S. 52 through Indianapolis, where it is exchanged for U. S. 31 and U. S. 31E to Louisville, Kentucky. Maybe you will want to detour a few blocks to Churchill Downs, scene of the Kentucky Derby, before taking U. S. 150 to historic Bardstown and its My Old Kentucky Home State Shrine. At Mt. Vernon change to U. S. 25W, which will take you into Knoxville.

The rest of the way, via the Great Smokies, is the same as the latter part of Tour 5, above.



The Green River ferry, a feature of the Mammoth Cave National Park in Ky.

Tour 8

This time Chicago motorists stay right on U. S. 41, skirting the Indiana-Illinois line south and over the Ohio River to Hopkinsville, Kentucky. Here take Alt. U. S. 41 to Nashville, the picturesque capital of Tennessee and "Athens of the South." Most famous of its buildings is The Parthenon, a full sized replica of the original Parthenon, ancient masterpiece of Grecian architecture. Here also is the Maxwell House (of coffee fame), the Hermitage, home of Andrew Jackson, the latter 12 miles east on U. S. 70N.

Continuing our journey from pines to palms, take U. S. 41 out of Nashville. Maybe you have heard of Murfreesboro, 32 miles south, as the scene of a famous battle during the Civil War, but did you know that it is also one of the largest red cedar markets in the world? Chattanooga may also cost some time, but Lookout Mountain (take the incline railway to the top), Signal Mountain, and Chickamauga National Military Park are all worth a visit.

Keep on the familiar U. S. 41 to Atlanta, and the rest of the way will be the same as the southern end of Tour 6.

Tour 9

From St. Louis take the MacArthur bridge to East St. Louis, Illinois, and follow Illinois 3, which parallels the Mississippi for some distance, to Ware. Thence via 146 and 145 to Paducah, Kentucky, on the Ohio. Not far south, on U. S. 68, rises the mighty Kentucky Dam, which makes a great long lake of this section of the Tennessee River. At Hopkinsville, in the heart of the Kentucky tobacco country, pick up Tour 8, via Nashville and Atlanta to Jacksonville.

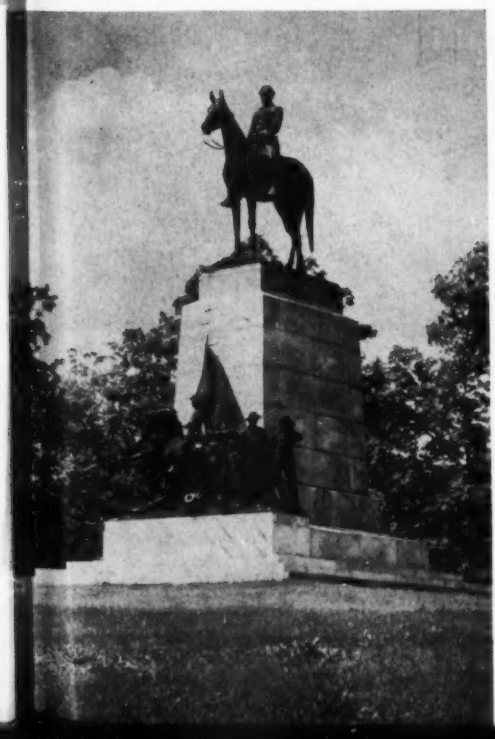
Tour 10

Memphis, high on the Chickasaw Bluffs overlooking the Mississippi River, is one of the country's greatest inland ports, and a principal handler of hardwood lumber. You are likely to see more cotton bales than trees at certain times along the busy waterfront.

Our route strikes out almost due east to Corinth, Mississippi, via U. S. 72. At Sheffield a detour via Alabama 20 and 101 takes us around Muscle Shoals and Wilson Dam, but the road goes right over Wheeler Dam. Muscle Shoals was so named by the Indians because of the strong muscles required to propel their

(*Turn to page* 54)

Statue of Robert E. Lee, located at the Gettysburg National Military Park, Pa.



The Klein home in Vicksburg, Va., typical example of true southern architecture during Ante-Bellum period

Traversing 14 states, eight national forests, two national parks and crossing six major rivers, the A. T. is paradise for any hiker

Along the A

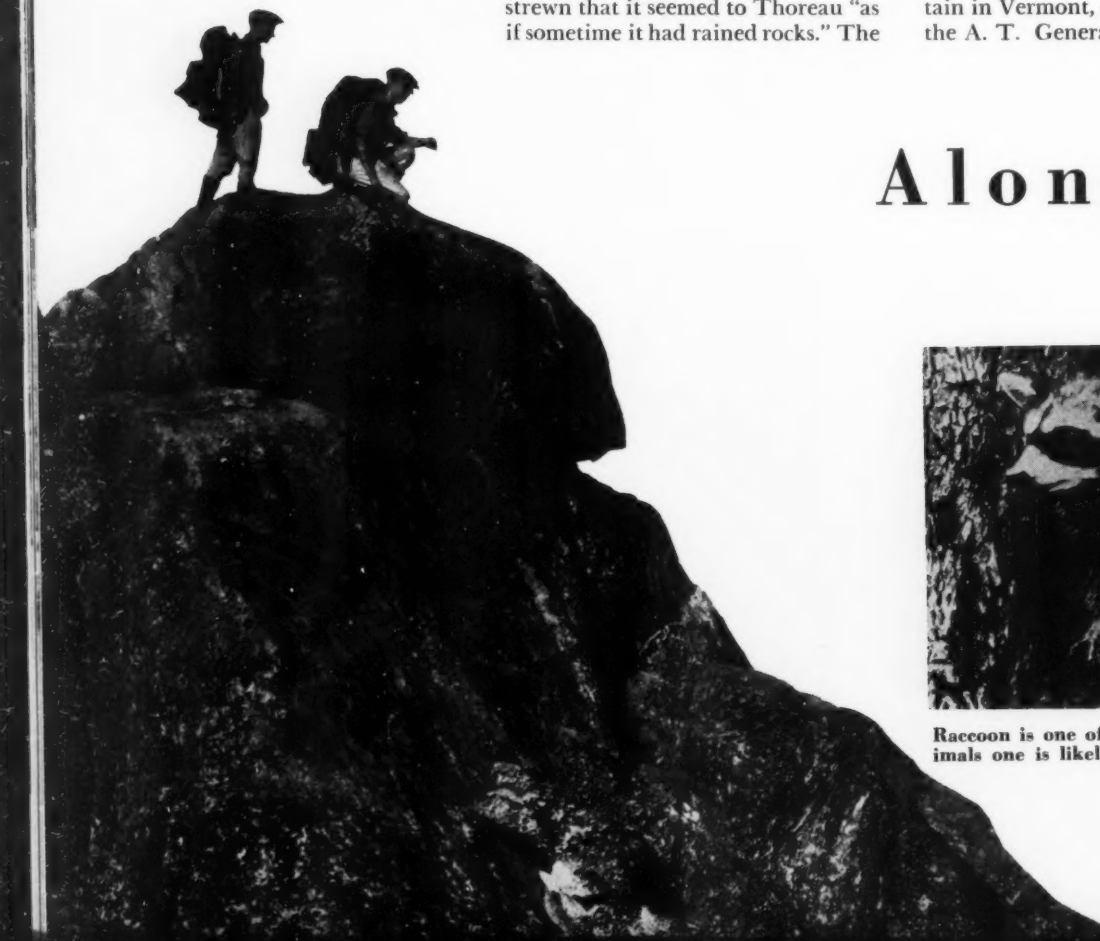
JUST as there are several ways by which you can skin a cat, so there are several ways by which you can travel south. One of them is by way of the Appalachian Trail, popularly known as the A.T., that starts at the subarctic summit of Mount Katahdin in central Maine and extends south for more than two thousand miles to Mount Oglethorpe in Georgia. The trail traverses 14 states, eight national forests, two national parks, and crosses six of the major rivers of the Atlantic seaboard.

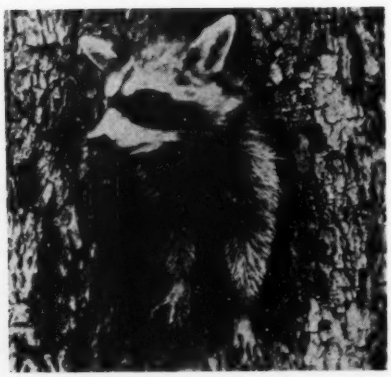
Thousands of rock cairns, white blazes, and metal markers point the way for those who would like to follow in the footsteps of Earl V. Shaffer. An obviously enthusiastic hiker, from York, Pennsylvania, Shaffer was the first to do the A. T. in one continuous journey. He left Mount Oglethorpe, April 4, 1948, and by averaging 17 miles a day, arrived at Mount Katahdin August 5, tired, triumphant, and tattered as far as his shoes were concerned.

Although much of the winding A. T. lies within easy reach of more than one half of the population of the United States, you can hike long stretches of it without seeing anyone. The northern terminus, 5267 feet above sea level, is so barren and rock-strewn that it seemed to Thoreau "as if sometime it had rained rocks." The southern terminus, 3290 feet high, lies in country where corn and tobacco grow in the mountain valleys. In between these two extremes is a variety of terrain and of flora and fauna that should suit anyone's taste.

After the trail leaves the mountain wilderness of Maine, it cuts diagonally across New Hampshire, and for about the length of a two day's hike is above timberline in the Presidential Range. This range in the White Mountains, so called from the names of its peaks, includes Mount Washington, whose 6288 feet make it the highest in the state. Treacherous weather conditions sometimes prevail on its slopes. Due either to inexperience or carelessness, 25 people have lost their lives on Washington's slopes in the last hundred years. So, if you are on this part of the A. T., even in summer, keep your weather eye peeled for storms that come up with amazing rapidity.

At Hanover, N. H., some 406 miles from its start, the A. T. crosses Dartmouth's shaded campus and then the Connecticut River into Vermont. Here it follows the summit of the Green Mountains, whose peaks are generally low and rounded and heavily forested, for about a hundred miles to the Massachusetts line. Killington Peak, second highest mountain in Vermont, is on this section of the A. T. Generally the only sound



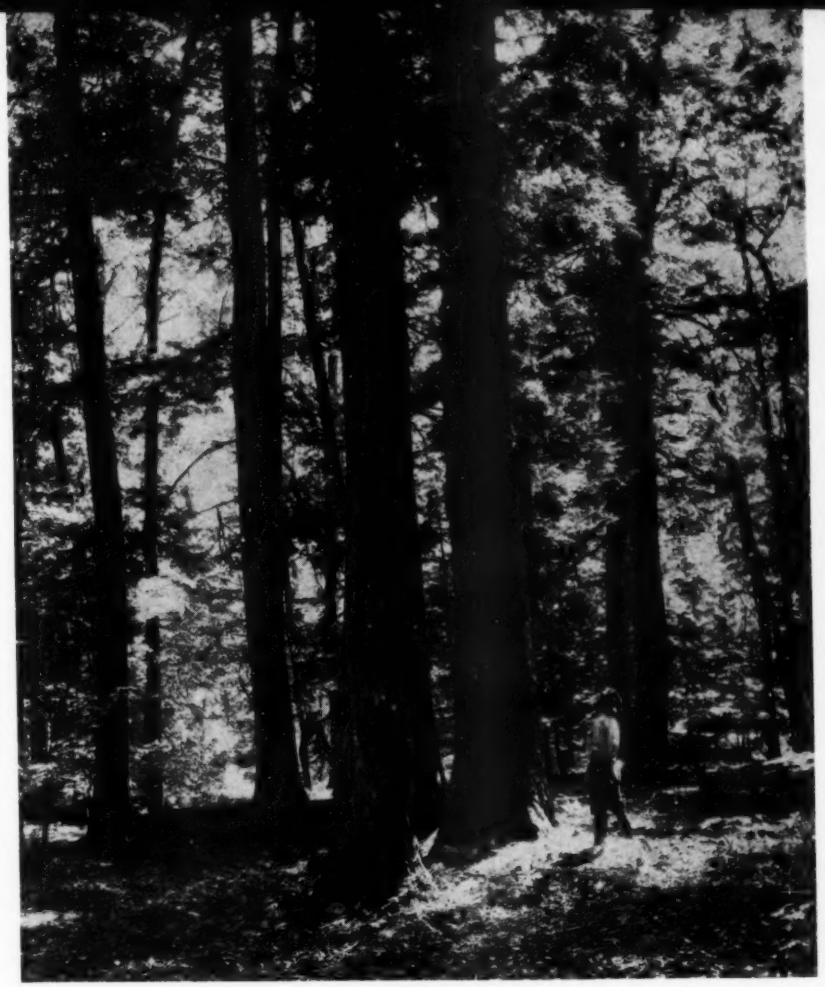


Raccoon is one of many interesting animals one is likely to meet along Trail

that breaks the quiet of the dense spruce woods that clothe Killington is the "tsip" of the slate-colored junco that inhabits the eastern United States, and generally the only discernible wildlife movement is that of the white-breasted nuthatch, creeping up and downward over the tree trunks in its daylong search for insects and spiders.

In bypassing New York City, the A. T. snakes its way through the highland country of northwestern Connecticut and spans the Hudson River by means of Bear Mountain Bridge. The Bear Mountain section of the trail lies within Palisades Interstate Park, a scenic area of more than 45 acres lying along the west bank of the Hudson River between Fort Lee, N. J., and Newburgh, N. Y. Scattered over the area, dotted by 26 artificial and natural lakes, are stone shelters for hikers. From a ridge near Bear Mountain, you can see the skyscrapers of Manhattan 30 miles down river.

At Bear Mountain there are trailside museum exhibits, operated by the Palisades Interstate Park Commission in cooperation with the American Museum of Natural History and the New York Zoological Society. In this area, and in many other areas along the A. T., you will see black bears and white-tail deer, among the larger game species, and

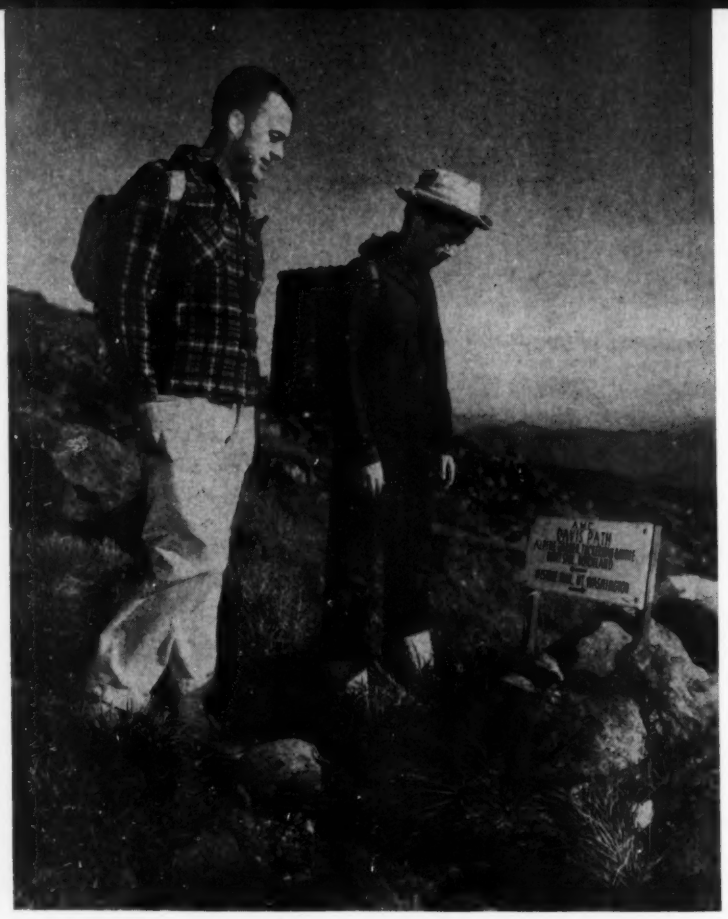


eAppalachian Trail

By WILL BARKER

Bears, too, may be encountered. But be careful not to incur the wrath of bruins

A hiker in Green Mt. National Forest, at the south end of Little Rocky pond



Father and son enjoy a hike in the White Mountain National Forest

raccoons and beavers, among the fur animals. From New Hampshire south, the timber rattlesnake may slither across your path, and from Massachusetts south, add copperheads to the reptiles you are apt to meet. It is wise to carry a snake-bite treatment kit in your pack, that should weight no more than you can comfortably carry.

Southern Pennsylvania is the midpoint of the A. T., that next cuts across the narrow part of western Maryland, dips into West Virginia, and then enters Virginia. One fourth of the trail is in Virginia, and a section of it runs along the Blue Ridge Mountain Crest on the Pedlar District of George Washington National Forest, one of two national forests in the state, and one of the first national forests established in the East.

George Washington and Thomas Jefferson National Forests extend for nearly 300 miles along the forested slopes and crests of the western upland borders of Virginia, and embrace many historic and scenic sections of the Blue Ridge, the Massanutten, and the Allegheny Mountains. Either one or the other is worth exploring. Within George Washington, for instance, there is a trail system of more than 1000 miles, designed primarily for fire protection, but affording the visitor an opportunity to see places like Ramseys' Draft Natural Area, about 1750 acres of old and virgin growth—hemlocks and oaks mixed with other species in a natural forest setting—or The North River mixed conifer plantations, that are for the added protection of the watersheds that feed the reservoir for the city of Staunton.

A foot trip over the area will show that the variety of tree species on George Washington is extensive. Among the more valuable hardwoods are the ash, basswood, hickory, locust, maple, chestnut, and the red and white oaks. Conifers include white, pitch, Virginia, and table-mountain pines, and hemlock. Scrub oak, laurel, sumac, and similar growths of less commercial value grow here, and are even encouraged to grow on those sites where they provide the best available watershed protection or good wildlife environment or both.

One of the two National Parks that the A. T. traverses in Virginia is Shenandoah, the nation's most popular national park and a 75-mile drive from Washington, D. C. Shenandoah flanks George Washington National Forest on the northeast. The other national park traversed by the A. T. is Great Smoky Mountains National Park in Tennessee and North Carolina. The trail crosses the park and follows the ridge of the Smokies, one of the old-

(*Turn to page* 56)

Cooking lunch at shelter along the Trail

Scenes like this inspire hikers who use the Trail, if only for short stroll

The 'Jeep' Truck with 4-wheel drive, carries men and equipment through mud, sand and snow, over bad roads and no roads, in all kinds of weather. That's why it's a natural for carrying small tools and supplies or rushing men and firefighting equipment to the scene of emergencies.

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Besley Tells Kentucky Meeting Forestry Is Practical Application of Commonsense

A BANKER-FORESTRY meeting was told last month that good forestry is merely commonsense—that is, the commonsense application of the principles learned from research, experimentation, and actual experience.

The statement was made by Lowell Besley, executive director-forester of The American Forestry Association, before a group assembled at Cumberland Falls State Park to study ways of making fuller use of eastern Kentucky's forest resources.

In outlining a suggested improvement program Mr. Besley posed three simple questions: 1) What do we have? 2) What do we want?, and 3) How can we obtain what we want from what we have? Mr. Besley answered these questions for his approximately 150 listeners with the following statement:

"The answer to the first question will be found by making a careful study of the area which we wish to manage. For example, for Kentucky as a whole the Forest Survey of the United States Forest Service shows that the forests are generally understocked and that the growing stock of sawtimber is low in both volume and quality. Although annual sawtimber growth exceeds drain by more than 60 percent, the drain of high-quality logs is 32 percent higher than the annual growth. This indicates that present methods of handling our forests must be modified if we are to build up the sawtimber productivity of these forests.

"The second question of 'What do we want?' must be answered by considering the various possibilities and then deciding upon the most advantageous one. What is the best long-term future for the heavily forested area of eastern Kentucky? Is it based upon strip mined coal which uses up mineral and surface alike, leaving only rocky sub-soil in its wake, unfit for agriculture, desolate of forest and wildlife and a despoiler of clean water and good fish? Is it an economy based entirely upon tourists who bring in business for a few months each year and leave the inhabitants to fend for themselves for the remainder of the year? Or rather, is it based principally upon a strong, healthy forest industry depending upon growing trees, harvesting them and fashioning them into useful products, with steady employment for woods and mill workers and for the even larger body of artisans, business and professional men who service their needs and share in their prosperity? And this forest which we are constantly improving and building up and from which we are harvesting steadily better ripe trees, at the same time will be holding our soil in place, carrying our precipitation deep into the soil and giving it off into our springs, our streams, our rivulets and rivers, clear and cool and in more equal quantities throughout the year. Likewise our well-managed forest will be fairer to look upon by the rider, the hiker and the camper, and will furnish the hunter and the fisherman ever increasing sport. Pleasures will abound for local inhabitants and visitors alike, and the tourist business will become an extra asset. I believe that we can all agree that this is what we want. Again this picture is somewhat oversimplified. The multiple use concept which I have described can apply to larger areas, but obviously on a specific area one must be predominant, and those uses which conflict with it must be placed in the proper perspective in order to attain our major objective. So it is with the specific forest products towards which we are aiming on any particular tract.

"I am sure that the other speakers today will give us valuable suggestions in answer to our third question, "How we can get what we want." It will take patience, determination, hard work, and lots of commonsense.

"Let us assume that we have selected timber production as a primary use of most of our forest land in eastern Kentucky. Of the more than ten billion cubic feet of timber consumed in the United States in 1952, 58 percent went into lumber and lumber products, 17 percent went into pulpwood, 13 percent went into fuelwood, four percent went into plywood and veneer and the remaining eight percent went into a number of products including poles, round or split mine timbers, hewn railroad ties, cooperage, shingles and shakes, wood for distillation and charcoal, piling, and a miscellany of other products. In Kentucky in 1948, 45 percent of the wood from the forests went into fuelwood, 35 percent into lumber and lumber products, and 20 percent was distributed among other products such as mine timbers, fence posts, cooperage bolts and miscellaneous farm timbers. There are no pulp mills in Kentucky, but of course there is some pulpwood cut and shipped to mills in other states. Aside from fuelwood and saw logs, the principal products from Kentucky forests are mine timbers, fence posts and cooperage bolts.

"According to the recent Stanford Report, consumption of fuelwood for the United States as a whole is expected to fall off 72 per cent by 1975, despite large anticipated increases in population. Notwithstanding the fact that the value of fuelwood is low, its use in Kentucky is presently providing an outlet for much low-quality wood that might not be used otherwise. Unfortunately, the use of wood for fuel here is declining, while at the same time the volume of low-quality wood in the stands is increasing. Unless other ways are found to economically use low-quality wood, it is unlikely that many woodland owners will be able to follow good forest cutting practices, and this low-quality volume will continue to increase. Most of the fuelwood is for home use of the farmers and does not support a major industry. With this use continually declining, other markets must be found for low-quality wood if we are to expect the private citizens who own more than 94 percent of Kentucky's forest land to improve their forest stands. Aside from fuelwood, the principal market for low-quality material today is for mine timbers, particularly for use in the deep mines of eastern Kentucky. This market is likely to continue at a reasonable level, but is unlikely to expand. Indeed, in recent years there has been some tendency to abandon deep mining of coal for strip mining in order to increase immediate profits.

"It seems to me, therefore, that after more adequate protection

(*Turn to page* 42)

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Kentucky Meeting Told Forestry is Commonsense

(*From page* 40)

against fire, insects, diseases and unwise grazing, the most important and urgently needed step towards Kentucky's forest improvement is the development of suitable markets for low-quality hardwood timber. The decades-old process of creaming the good trees from Kentucky's forests year after year has progressively depleted the healthy growing stock essential to valuable growth, and has left the wolf trees, the culls, the deformed, the weeds and the very young. These forests must now be rehabilitated if they are to contribute their tremendous potential to Kentucky's economy and prosperity. We must first of all retain as many as feasible of those younger merchantable trees of good form, vitality and species long enough for them to complete their period of most rapid growth in value — preferably until they are 20 inches or more in diameter. Secondly, we must make room for these and oncoming crops of younger trees possessing valuable potentials, by removing the trees of unprofitable form, growth characteristics or species. Under harvesting and marketing conditions of the past, such removal would have to depend upon poison girdling, at a direct and very considerable cost, or upon cutting for unprofitable fuelwood of limited use. The increasing use of the power saw and other improvements in harvesting methods which tend to reduce cost, however, will make it possible to divert these trees to more productive use if sufficient markets for low-quality wood can be developed close to the source of supply. This means bringing industries into the forest regions of Kentucky, since obviously this low-value material cannot bear high transportation charges.

"Industries which can use low-quality material efficiently and which should be encouraged to locate in Kentucky include manufacturers of wood insulation, building board, roofing paper, corrugated board and small dimension stock, including flooring. Likewise wood preserving plants enhance the value and extend the market for non-durable species thus made usable for poles, railroad ties, highway guard rail posts, fence posts, mine timbers in major tunnels, and other similar products.

"Developments in lamination present other opportunities. Some of these were described to you last year by Mr. C. D. Dosker, President of Gamble Brothers of Louisville. Indeed, his company was one of the pioneers in gluing together short clear lengths of otherwise low-grade timber to produce high-quality products. Likewise today we are finding it practicable to take short lengths of inferior grades of lumber and laminate them into beams of superlative strength — bent, curved, or straight as needed. Thus laminated wood arches are being used in bridge construction on some of our most modern highways, and even wooden ships are being revived. In 1953 it was reported that the United States is now building 86 all wood, 165-foot non-magnetic mine sweepers, plus 172 smaller ones, because the perfection of the magnetic mine has made steel mine sweepers obsolete.

"Perhaps one of the most promising fields for low-grade material market development in Kentucky is that of pulp. Hitherto a large majority of pulp has been made from softwoods. Most of Kentucky's forests are of hardwood species. Semi-chemical pulping processes, which appear to be particularly well suited to hardwood pulping, are developing rapidly and are being improved constantly. Recent developments in sulphate pulping have made it a versatile process, capable of using practically all softwood and hardwood species for all pulp grades. Even ground wood pulping is now being adapted to a wider range of species, including some hardwoods. Thus, with greater use of its abundant hardwoods, Kentucky may well be able to support pulp and paper industries.

"Lastly, anything which tends to make it possible to use a larger percentage of the log for valuable end products, likewise increases the value of the standing tree. The modern trend in forest products industries is towards greater integration—greater combination of lumber mills, pulp and paper mills, plywood plants, and various remanufacturing plants so that there is a minimum of waste and a maximum of the most valuable use of every log coming to the mill. If Kentucky can build up its forests to provide a steady, reliable and continuous supply of timber, eventually it can justify the large investments required in pulp mills and integrated plants and can keep them running efficiently. . . .

"There are many other things which need to be done to make our forest land in Kentucky contribute more to the economy of the area. The few illustrations mentioned above are merely suggestive. They do point up two factors which every banker will recognize immediately. First, the growing forest is something like a savings account. The soil and the trees which form the growing stock are the forest capital. The annual growth is like the annual interest on this captial. We can build up this forest to its optimum growing stock by allowing this interest to accumulate and become part of capital. If, on the other hand, we draw off an amount equal to the interest every year, we maintain the same capital and the same interest each year. If we draw off more than the annual growth, we reduce the capital and likewise the amount of annual interest growth. In like manner, if we make a capital improvement, by wise investment in planting or cultural treatment of the forest, such as cleaning undesirable competitors around our crop trees, or thinning out less valuable trees which are retarding the growth of the crop trees, or pruning off lower limbs which are degrading the quality of the lumber to be produced from the first log, or remove cull or weed trees which are taking up space that should be devoted to more valuable trees, we are adding to our capital and consequently increasing our annual interest in dollars.

"Likewise, just as the savings bank is most careful how it invests the money placed in savings accounts and also carefully guards the money against loss, so must the forest landowner or manager carefully protect his forest against fire, insects, diseases, unwise grazing and trespass, and at the same time must administer it as efficiently as possible to obtain the largest return.

"The second point so readily recognizable is that efficient marketing of the timber we grow is just as important as growing it in the first place. It is an integral part of good forestry. . . ."

Austin Cary

(*From page* 30)

not yet been reached which would justify any direct outlay of money in cut-over lands in behalf of the young timber which may now be growing."

A similar viewpoint is revealed in a letter to Cary from A. L. Clark, president, Southern Pine Association, May 6, 1920. Clark advocated purchase by the federal government of cut-over lands and—"I would consider very carefully whether or not the government would not be wise to exchange timber in its forest reserves for manufacture and present consumption of the people, for large bodies of cut-over lands to the government for reforesting and for care."

Clark continued. "But on account of the difficulties which the non-resident landowner would labor under, I do not believe that under the present conditions and laws he can successfully reforest his large areas, which are of necessity unprotected either by police powers or from burdensome taxation which is economically on the wrong basis for such a purpose. An annual tax on an annual crop is one thing, but an annual tax on a 75 to 100 year crop is quite another thing. Therefore I believe that large comprehensive reforesting on large areas can only be done by the state or national governments under present conditions."

Cary's viewpoints were in marked contrast to those of the lumbermen. Writing to the "American Lumberman" in 1925, he expressed approval of an article which "tells how, instead of finding out what they (lumbermen) can do and doing that thing, men often close down on positive thinking and go to harping on certain ideas — taxation, the fire menace, etc.,—and in the matter of actual achievement do nothing. . . . How true it is, however, that men's minds get set in certain lines; that they run around in circles oftentimes; that consequently, those men fail to see things in the right and a progressive light, fail to take advantage of opportunity sometimes. . . . Of the right-mindedness of the lumbermen I feel perfectly sure; of course, too, I understand some of the limitations of their position. My idea is this: When things can't be helped, to spend no time bemoaning the fact; to recognize the inevitability of the damage sustained; to go to work in lines that promise to be productive."

Writing specifically about the argument of taxes hindering reforestation, Cary cited purchase of 40,000 acres of "hard used land for $2 an acre . . . the relation of such an investment to income taxes was apparently the chief motive for its being made. The tax business doesn't work all one way, therefore . . ."

Soon after beginning his studies in the South, Cary invested in cut-over land. In 1927 he wrote to a Florida naval stores operator as follows:

"My faith I showed by works at an early date. As long ago as 1920 I made what for me were very considerable purchases of second growth timber lands — this in Bradford County, Florida. Part of this I bought as a speculation, it is true, but a part of it I bought to hold, with the idea of growing timber. This last scheme, I must say, didn't pan out very well; trespass, taxes, and especially fire persistently ran over my land in spite of all I could do to prevent it, interfered with my carrying out my plan comfortably and successfully. The boom in land values that recently swept over your state was a godsend to me, therefore, and I utilized it.

"However, I still believed heartily in the timber growing idea and about the time I sold out, an acquaintance, Mr. Sessoms, at Cogdell, Georgia, got the same idea firmly fixed in his mind and wanted two or three men associated with him. As most of you likely know I took stock in his company."

Much of Cary's entire philosophy of investment in timber lands may be obtained from the following excerpt, "I am from New England, you understand, a section whose people are noted not only for thrift but for long-headedness, caution. In years past, I have as a matter of fact associated with numbers of such men engaged in the conduct of extensive business. A phrase that comes into my mind in connection with those men is that they know where the money is coming from before they make engagements.

"Many southerners on the other hand seem to me to have a fondness for plunging. Optimism to a degree

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MECHANICAL FEED WASTEWOOD CHIPPER

This chipper has the spout feed mechanism synchronized to the speed of the disc to produce uniform size chips . . . damping device utilizes all the wood, holding slivers to a minimum . . . capacity when operated at 500 RPM and set to cut 5/8" to 3/4" chips is approximately 10 cords per hour . . . chipper can be driven by electric motor or Diesel engine . . . available with blower housing if pneumatic chip conveying is desired.

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is an asset, a necessity for doing business. Recklessness is another thing altogether.

"What is bought has got to be paid for; otherwise creditors get it, or the vultures who are always in the offing looking for bargains. Land ownership is a long term proposition, involving expense for the mere holding, to say nothing of the cost of improvements that may be needed to make it produce as it can and should. The revenue of naval stores men commonly depends on their going operations. My point is simply this; that while land ownership for the purpose of timber growing may look attractive to a man, he is under obligation to himself and his family if not otherwise, to keep within his limits, to undertake such engagements only as there is strong likelihood he can meet when the time comes."

In 1921 Cary wrote to a lumberman in Panama City, Florida, "You yet have in the region, as I gathered, considerable of the original growth of timber, but on the fate of this, now in the hands of lumber companies, etc., with a set policy, men with our ideas can exert little influence. That, however, may not be as lamentable a thing as it is sometimes pictured. These lumber companies in making available for use the timber stored up by nature are doing a necessary thing and they are generally pretty efficient about it.

"That men with their training should frequently exhibit little interest in or vision of the future is perhaps to be expected. And in a way that also is a good thing, for they are the less likely so to hamper men who have the idea of building for the future. My own policy toward men proved to be of the hard-headed type, with the policy of cut-out, sell-out and get-out, is to take an attitude of complacency rather than otherwise, *realizing that the sooner they are out the sooner will men of another stamp be in the saddle.*"

Doubtless some of the fondest recollections of Austin Cary are related to his quaint and characteristic method of expressing himself. The following are typical. From France, while visiting the Landes region, he wrote the Chief Forester, "Will only add that it's mighty hot over here just now. People, I find, haul up in the middle of the day."

Cary's fondness was for the entire South, but southeast Georgia was literally the apple of his eye. In one speech he said, "But I returned to south Georgia, and during the years that have passed since, I have returned again and again. In fact, an observer of my movements might come to the conclusion that I have acquired the south Georgia habit. Several things, no doubt, contribute to that. In the first place, I like a lot of folks I meet and we seem to get along well together. Much the same with the things that affect day to day comfort; for instance if I didn't much care for grits, I did take strongly to cane syrup."

Although Cary was not the least bit argumentative, he was most insistent that statements be fair and impartial. In one letter he showed his displeasure in what he judged to be an inaccurate statement inferring that certain government agricultural workers had advocated burning the woods for boll weevil control. He wrote, "Near as I ever knew about it, the amount of woods burning stimulated by Government agents in the interest of killing boll weevils would seem to me magnified by the writer. Here as later I suggest to him that he let the general government off as easily as he conscientiously can."

In another instance he thought that a writer for the lumber industry had been too severe on the paper industry. He wrote, ". . . he treats of pulp and paper manufacture in a way which I suspect representatives of that industry might not consider as respectful as it deserves—as largely destructive of forest resources, more or less the tail to the kite of the lumber industry.

"For the great paper industry of this country, I myself would claim most respectful treatment, and in that I would have in mind the relation of that industry to conservation as well as other things. Bogalusa is close by you and in point. Such a course I would think wise, too. Mr. Dunbar seems skeptical of the large expansion of paper making in the South. . . . (However) it is my understanding that a good many men in excellent position to judge do expect, in course of time, a very large southern development of paper making. . . ."

(Next month Mr. Heyward gives Mr. Cary's appraisal of the South, his views on fire prevention and control, and his comments and notes on regulation of forestry as opposed to educational methods, hardwood control and thinning, and his interpretation of his job.)

Abuses of the Mining Laws

(*From page* 19)

improvement on the laborious search and sue method now in effect. At the same time it would enable the government to determine surface rights to resources without disturbing miners' rights to the minerals in the pre-patent stage.

Under Chairman Nelson's guidance, the conference arrived at a meeting of minds and a three-man committee comprised of representatives from the two departments and the mining industry was named to draft a bill based on the findings and conclusions of the conference.

Both Chairman Nelson and Mr. Besley praised the constructive attitude of the conference. Mr. Besley commented, "From the standpoint of those of us long interested in clearing up the mining claim abuses on the national forests and other forest lands, this proposed legislation represents a compromise only with respect to the "all or nothing" school of thought. We can wholeheartedly approve of everything it is designed to accomplish. It is definitely a tremendous step in the right direction. Forest Service officials estimate it will clear up 75 percent or more of the mining claim troubles on the national forests. Some think it may go even farther. None of us can know for sure until we have given it a fair trial over a period of years."

The position of the mining industry has been that it does not condone the use of mining claims on public lands for other than mining purposes. Its position is and has been that it should have the continued opportunity to locate mining claims, to mine any minerals found, and to make a profit if it is fortunate enough to discover and develop commercial deposits. It seeks security of its investment through a full title to mining claims when all the requirements for patent have been met.

AFA By-Laws Amended

A number of amendments to the by-laws of The American Forestry Association were approved at a recent meeting of the Board of Directors. Among the most important revisions was a change in the membership dues of subscribing members from five dollars per year to six dollars per year, or two years for ten dollars. The changes:

Article II — After the word "forests" in line 2, add the words "and related resources."

Article III, Section 2, paragraph (3) — Change "One Hundred Dollars" to "One Hundred Fifty Dollars." (Effective July 1, 1955.)

Article III, Section 2, paragraph (6) — Change the paragraph to read: "Subscribing Members, who shall be individuals, organizations, or companies who shall pay Six Dollars for one-year memberships or Ten Dollars for two-year memberships." (Effective July 1, 1955.)

Article III, Section 5 — Change the word "A" in line 5 to "An organization or."

Article III, Section 6 — Omit the word "other" in line 5.

Article IV, Section 1 — In line 4, add "Vice-President," after the word "President." (Effective January 1, 1956.)

Article IV, Section 2 — Change "twenty-five" in line 17 to "fifty."

Article IV, Section 2 — After the word "Association" in line 18, add "in good standing."

Article IV, Section 2 — On page 7 change lines 5 and 6 to read: "other nominations which have been made by not less than fifty members of the Association in good standing and which have reached . . ."

Article IV, Section 2 — On page 7, omit lines 15-17. The sentence will then read: "The Secretary of the Association shall cause a ballot to be printed containing the names of all candidates and shall mail such ballots to all members of the Association having the right to vote on or before November 1."

Article IV, Section 2 — On page 7, change this sentence in lines 20-24 to read: "The members of the Association shall elect the officers by mailing their ballots to the Secretary in sufficient time to be received on or before November 30."

Article IV, Section 2 — On page 7, lines 25-26, substitute for the sentence "Every ballot shall contain the name and address of the member submitting it," the sentence: "Ballots shall be so prepared and submitted as to retain the anonymity of the voter."

Article IV, Section 2 — On page 7, lines 31-32, replace the last sentence in the paragraph by the sentence: "The candidates, to the number required to be elected to each office, receiving the greatest number of votes for such office shall be declared elected."

Article IV, Section 3 — Change the second sentence in this Section to read: "If a Director shall be elected as President, Vice-President, or Treasurer of the Association . . ." (Effective January 1, 1956.)

Article V, Section 1 — At the end of the Section, add the following sentence: "Three members of the Committee shall constitute a quorum for the transaction of business."

Article V, Section 3 — Change the period at the end of sentence to a comma and add "or as may be authorized by the Board."

Article VI, Section 1 — Change the first sentence in this Section to read: "The officers of the Association shall be a President, a Vice-President, an Executive Director, twenty-one Honorary Vice-Presidents, fifteen elected directors and three or (during the year following the retirement of a President as provided in Article IV, Section 1) four ex officio Directors, a Treasurer, a Secretary, and such other officers as the Board shall from time to time determine." (Effective January 1, 1956.)

Article VI, Section 1 — Change the second sentence in this Section to read: "The President, the Vice-President, the Treasurer, and the Honorary Vice-Presidents shall be elected annually by the Board of Directors."

Article VII, Section 1 — In the second sentence, after the word "absence," add a comma and the words "the Vice-President shall preside; and in the absence of both the President and the Vice-President. . . ." (Effective January 1, 1956.)

Article VII, Section 2 — Change the Section to read as follows: "Sec. 2. The Vice-President — The Vice-President shall perform such duties as are assigned to him by the Board of Directors, and shall assume the duties of the President in case of the death or disability of the latter."

Article X, Section 4 — Replace "thirty" by "fifty."

Article XI, Section 2 — In line 1, insert a comma after the word "may."

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Crisis in Our Parks

(*From page* 27)

The Yosemite concessionaires are making large profits out of people's curiosity to see the majestic mountains by luring them with dancing, firefalls and other synthetic attractions.

Relatively few people penetrate the lovely Tuolumne meadows at the eastern end of Yosemite, where deer come to browse at eventide, and wildflowers are in profusion. One reason for neglect of this part of the park is the difficult and narrow Tioga Road. Yet, if the automobile clubs have their way, the Tioga Road will be widened and the alpine meadows will be subject to heavy use, too.

At the south rim of Grand Canyon overuse is equally prominent. Rail and road travellers pour in during the summer. Visitors increased from about 500,000 in 1946 to 800,000 in 1954. Accommodations are at a premium. Sanitary conditions are not as objectionable as at Yosemite but one of the most memorable sights are the friendly does and fawns emerging from the woods in the morning to eat their breakfast at the garbage pails.

Yellowstone is perhaps in the worst plight. The late Senator Hunt of Wyoming visited the park in the summer of 1952 and was so outraged that he wrote a letter of protest to President Truman.

"Frankly (he said), I was appalled at the crowded and congested conditions in the park; the roads were narrow and many sections were in such a poor state of repair that visitors were constantly complaining. The several one-way bridges on the main park loop were originally built for stage-coach traffic and are a . . . safety hazard for modern automobile traffic.

"The lack of accommodations for visitors in the park was such that many of them had to sleep in their cars or on the ground along the roadside."

And so it goes. The National Park Service estimates that the backlog of needed work in the parks and monuments runs to about $575 million, including buildings and utilities, roads and trails, parkways, etc. At the rate of current appropriations for these purposes — about $10 million per year—we could not catch up in fifty years, even if no further deterioration were possible. Concessionaires are failing to maintain government facilities they have leased. "The concessionaires in most of the parks I have visited," said Congressman Budge in a hearing on the National Park Service's appropriation, "have made little or no investment in even what would be a reasonable landlordship. They are just letting them run down. . . . The facilities are fast vanishing."

What we need, perhaps, is a reevaluation of the national parks and what they mean to a nation of 160 million people. This system, which is a model for the world despite its manifest shortcomings, was not established without a prolonged struggle. As with the preservation of other natural resources, the fight is never won but must be always continued.

The primary need is to stop the fearful deterioration of the park facilities. Conrad Wirth, director of the National Park Service, explained the problem squarely to the House Subcommittee on Appropriations in February, 1953. He said, "It is hard for me and it must be hard for others who give it serious thought, to understand why during times of prosperity; times of great advancement in our economic conditions; times of advancement in our standards of living, yes, in times when individuals are getting so much social and economic benefit out of their great scenic and historic treasures, we are unable to get even the bare necessities to protect these treasures. Treasures that in themselves play an important part in our progress as a nation. Treasures, and the concept of their protection and use for present and future generations, which are the envy of freedom loving people all over the world. The cost is very little when you consider their value to the nation."

Wirth was merely echoing the plaints of previous directors of the Service. Individual congressmen are always sympathetic, but the parks are nevertheless kept on a dole. The Service's personnel remains woefully underpaid.

Basically, the difficulty lies in congressional failure to accept fully its responsibility to the people for whom the parks were created. The

hordes of visitors generally have little conception of the impasse that exists between the National Park Service and Congress. They may gripe at their treatment by the concessionaires, complain about the lack of accommodations, and curse the condition of some of the roads, but are so ill informed about the manner in which the parks are administered and financed that they miss the target of their resentment. Could they be organized as an effective pressure group the crisis in our national parks would probably be ameliorated.

The National Park Service, on its part, might well re-evaluate some of its policies, especially with respect to concessionaires. The government is now receiving a relative pittance in royalties from concessionaires doing an aggregate business of over $28 million. Some of the existing contracts date from a period when park visitation was at a low level, and the Service endeavored to entice entrepreneurs with the bait of good leases. Such arrangements should have been revised long ago, when the influx to the parks made it possible for some companies to earn up to 10 or more per cent annually on their investment. The Service is struggling manfully with this problem.

There is a common feeling, as expressed by Congressman Budge and many articulate tourists, that many concessionaires, enjoying monopolies, are taking advantage of the situation. The Yellowstone Park Company, for example, offers some of the worst accommodations of any major park entrepreneur. Unless you can afford to stay at the expensive inns maintained by this company, or have camping equipment, you must rent a shack — a one-room cabin without running water or bathing facilities — containing an ancient wood stove and simple iron bedstead. For these lodgings you pay as much as for a modern luxurious motel just outside the park. The company apologizes in a handsomely printed booklet which the registration clerk hands you, and promises to do better eventually. But the modernization program is so slow that it will be a long time before all the shacks are replaced.

It is estimated that the parks need from $70 to $100 million annually—instead of $30 million—to keep pace with their intensive use.

Since every American has a stake in these properties, it is up to each of us to work for swift remedial action.

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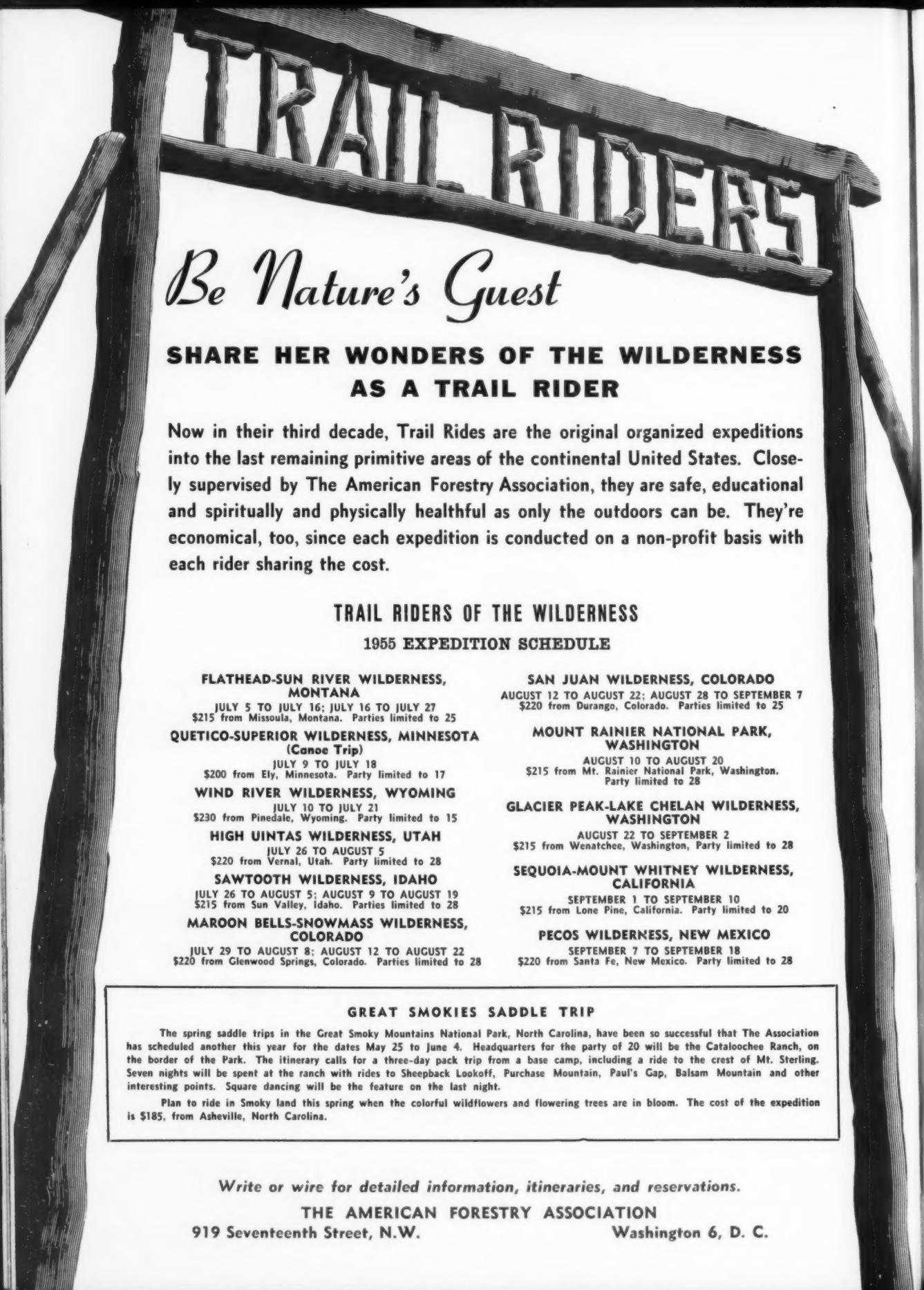

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SAWTOOTH WILDERNESS, IDAHO
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The spring saddle trips in the Great Smoky Mountains National Park, North Carolina, have been so successful that The Association has scheduled another this year for the dates May 25 to June 4. Headquarters for the party of 20 will be the Cataloochee Ranch, on the border of the Park. The itinerary calls for a three-day pack trip from a base camp, including a ride to the crest of Mt. Sterling. Seven nights will be spent at the ranch with rides to Sheepback Lookoff, Purchase Mountain, Paul's Gap, Balsam Mountain and other interesting points. Square dancing will be the feature on the last night.

Plan to ride in Smoky land this spring when the colorful wildflowers and flowering trees are in bloom. The cost of the expedition is $185, from Asheville, North Carolina.

Write or wire for detailed information, itineraries, and reservations.

THE AMERICAN FORESTRY ASSOCIATION
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Walleye

(*From page* 17)

the schools become larger, and as their numbers increase they glide nervously onto the shallow shoals or proceed with uncertainty up the spring's swollen streams.

Daily they retreat to deeper water and nightly they gather in ever increasing numbers and beset the lake's gravelly shallows and stream inlets. As the peak of their spawning run is attained, they dart about in excitement and confusion. Those which take to the streams surge up the rapids noisily. There is no pretense at caution for the will to propagate becomes paramount, and the once sedate walleye becomes a daring performer of the roaring, rock-bound rapids.

Amid the maze of confusion there appears a hazy pattern of organization in the unrelenting surge upstream. Schools of fish gather in apparent disorder in the quiet pools below a rapids. Suddenly, as with a signal, they beset the swift current and glide quietly into the pool above.

Successive onsets of the rapids are made by fresh invaders until the stream becomes vibrant with fish life. Upstream they struggle as though in effort to relieve the congestion behind them.

Actual spawning takes place mostly in the quiet of the night. The female, usually the larger of the species, darts to the water's surface followed by some half dozen aggressive males. The group swims about in close formation, often breaking the water's surface with their vigorous actions. The female then emits part of her ripe spawn while the males discharge their milt. The eggs drop to the gravelly bottom at the whim of chance, and the group of milling fish descends to the water's bed and all is quiet again.

Soon another group starts milling to the water's surface, and at the height of the spawning period a favorable lake sand bar or suitably shallow pool of a stream becomes alive with activity during a quiet and balmy night.

The process continues daily under conducive weather conditions until the female has ejected all her spawn, which usually consists of about a fourth of her own weight. The number of eggs she produces depends

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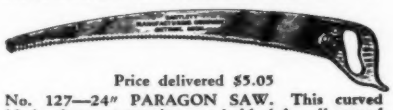

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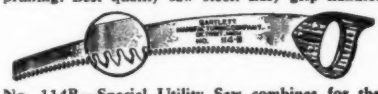

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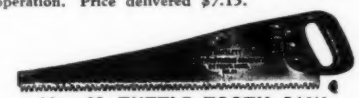

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largely on her size and it may vary anywhere from 50,000 to several hundred thousand.

Since the female walleye usually discharges her spawn at the water's surface she has no nest for her spawn as do the bluegills or bass. Consequently no parental care is ever exercised by the female walleye. After her spawn is spent she slowly wends her way to her natural haunts of deep water. The males who are first to venture onto the spawning grounds are again last to leave them, and possibly some protection is thus given the fertilized eggs during the few initial days of the hatching period.

Nature is necessarily lavish in the abundance of walleye ova. Undoubtedly not all the eggs become fertilized in the fishes' haphazard spawn and milt ejections. Nor does more than a small fraction of the fertilized eggs develop into walleye fry, for many eggs are washed about by current and waves and are carried at random into deep water, unsuitable for proper hatching, or else they are washed ashore to serve no purpose.

Minnows, suckers, perch, crappies, and other predatory fish feast on the abundant harvest of walleye eggs and they continue their incursions of the spawning beds even after the ova develop into fry.

Spawning habits of the walleye vary considerably in different waters. Water temperature has much to do with spawning dates and the walleyes of the northernmost lakes, as well as those of the colder bodies of water, spawn at a much later date than do their species of warmer waters.

The choice of the walleye's spawning grounds differs much from lake to lake. For some inexplicable reason some walleyes spawn up the streams of the lakes, various inlets, while on other waters the streams are forsaken for the lakes' gravelly shoals or sandbars. Still on other lakes there is a compromise between the streams and the shoals.

The fertile eggs hatch into walleye fry within a few weeks and the resulting fingerlings lead a nomadic existence, and very little is ever seen of them. They attain an average length of around six inches at the end of their first year. Their growth into adult fish is not spectacular and it isn't until their third or fourth year of existence that any appreciable numbers of them join their elders in the annual spring jamboree.

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Termite Counterattack

(*From page* 16)

joints and expansion joints between concrete floors and foundation walls. In new construction, termites can be blocked and kept from reaching wall and floor voids by poisoning the soil just prior to pouring concrete. This is especially important in slab-on-grade types of building, such as ranch style or rambler construction.

The mechanical blocking of termites is the backbone of termite control. The use of chemicals as a soil poison forms an important supplementary line of defense and an excellent counter-attack measure. Both are necessary for long-lasting termite control.

In addition, the following measures should be taken by the homeowner or home builder:

1) Provide for adequate drainage away from buildings, and for good ventilation.

2) Allow a clearance of 30 inches, if possible, and 18 inches minimum between soil and the floor joists under buildings with crawl space.

3) Beneath buildings, have all wood supports rest on concrete, and preferably on plinths six inches above the soil line.

4) Do not bury wood in concrete.

The homeowner may be able to carry out some of the steps to prevent termites from taking over, or even to take care of initial infestations. Government and state entomologists and county agricultural agents will supply additional information if needed. Where severe infestations occur, or where colonies become established under slabs of floors, porches, or other sealed-off areas, watch out! These are no jobs for the do-it-yourself amateur, who may harm property and himself more than the pest he seeks to eradicate. Better consult specialists with long experience in such work, who have the proper equipment and "know-how" to carry it to completion.

Control of termite infestations, any way you look at it, is expensive and troublesome; both science and the progressive builder now realize that the cheapest and easiest approach is through *prevention*. Despite every care in construction, some discarded wood will be left in the ground near a new house, and even if expensive treated lumber is used around foundations, termites have been known to build their shelter tubes over the treated wood to reach that which is untreated.

The real answer for termites, in addition to sound construction practices, is a chemical soil poison, applied at the time the house is built. Several effective chemical poisons are known, some of which are diluted in water and others in fuel oil, thus permitting wide coverage at comparatively little cost.

Yet while certain soil poisons are effective in killing subterranean insects, they also play havoc with the roots of trees, grass, shrubs and flowers. Others give promise of controlling termites without harming plants, trees, or grass.

During the past three to six years a series of scientific tests have been conducted by the Division of Forest Insect Research, Forest Service, USDA, of a promising synthetic insecticide called chlordane. Some of the tests, which have taken place in Maryland, Mississippi and the Canal Zone, were to determine the effectiveness of the chemical as a soil poison for subterranean termite control, and others were to decide whether it is non-toxic to plants.

While final conclusions have not yet been announced by the Forest Service, enough progress has been made to warrant the publication of results indicating that chlordane may be the answer to a lot of prayers of both the home owner and the building industry.

According to Mr. R. A. St. George, entomologist of the Division of Forest Insect Research at the Beltsville, Md., research center, chlordane is being submitted to two major types of tests — the long time "standard stake," and the short time "ground board."

To simulate the application of soil poisons along the foundation of buildings, a hole 15 inches in diameter and 19 inches deep is dug, removing about two cubic feet of soil. As the soil is replaced it is uniformly treated with chlordane (or other chemicals) and tamped. An untreated two by four inch stake of pine sapwood, 18 inches long and pointed at the lower end, is then driven into the center of the area to a depth of 12 inches. This leaves

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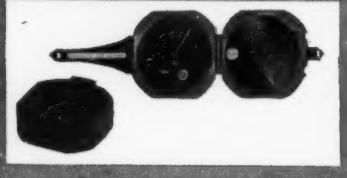

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about six inches of treated soil surrounding the stake.

In these tests, which are being conducted in a sassafras sandy loam, with clay loam subsoil, four different concentrations of one-eighth, one-half, one, and 2 per cent chlordane water emulsion have been tried.

After five years, Mr. St. George reports, no termite attack was found in any of the stakes in the treated soil. For comparison purposes stakes had been driven in nearby untreated soil. All the latter were destroyed by termites, and about 75 per cent of the replacement stakes were attacked.

At Saucier, Mississippi, test concentrations of two per cent chlordane in fuel oil and in water emulsion at the rate of 3.2 pints per cubic foot of soil, were established in Norfolk sandy loam, with clay subsoil. No termite attack has occurred in any of these treatments after a three-year period of test. The same formulae were applied at a six-point dosage in the Canal Zone, where they are giving 100 per cent protection after a period of two years.

In one of the special tests at Saucier, Miss., water emulsions containing one-half, one, and three per cent chlordane were applied at the rate of three pints per cubic foot of soil. These treatments have proved to be 100 per cent effective for one year, whereas stakes in nearby untreated ground were heavily damaged in a year.

However, one general experience has been that the *duration* of effectiveness of all soil poisons is apt to decrease from north to south.

In order to simulate the treatment of soil before the pouring of concrete slabs into wooden forms, "ground board" tests were made at the same time. This treatment is probably more important as a preventative measure than any other, for contractors frequently do not remove wooden forms under foundations, which, left in untreated soil, become ideal nesting places for termite colonies.

In this test the soil surface in an area 17 inches square is cleaned, after which chlordane is sprinkled uniformly over the area. Several hours after treatment a six by six by one inch board of pine sapwood is laid in the middle of the treated area. In the Mississippi tests some of the wood samples were also dipped in 0.2 per cent phenyl mercury oleate in white gasoline, to permit a more accurate evaluation of the soil toxicant (termites are not affected by this fungicide). Untreated panels were also placed on both chlordane treated and untreated soil areas.

Three different concentrations — one per cent and two per cent chlordane in No. 2 fuel oil, and two percent in water emulsion—were tried. These were applied at rates of one-half and one pint per square foot of soil surface.

The results were most promising, Mr. St. George declares. During five years of exposure each of the treatments has prevented termite attack, whereas boards laid on untreated soil were attacked within a year.

In the studies at Beltsville made of the effect of chlordane on ornamental shrubs, the chemical was applied to the soil on one side of the plant, as it would be in actual termite control use around buildings. Dosage of four gallons of two per cent water emulsion per five linear feet of trench. This dosage is as heavy as that used for termite control in a building with a deep footing, as is the case where there is a full basement. After four seasons, no plant injury has been detected.

Among the shrubs, vines and plants treated were azalea, rhododendron, ivy, spruce, hemlock, spiraea, yew, juniper, bush honeysuckle, and arbor vitae. One important finding was made during experiments at both Beltsville and Gulfport, Miss. *Water* emulsions of several chemicals used in subterranean insect control produced no harmful effect on plants, even when it was applied to the root area. Chlordane was one of those tested with satisfactory results. Not even tender grass roots were harmed.

Whereas, *oil* solutions of the same chemicals were safe only when applied at some distance, at least two feet. These tests clearly indicate that oil in itself is toxic to plants, not the chemicals in which it was mixed. Gardenias seem to be particularly sensitive to oil solutions, the effect varying from yellowing of the foliage to death. Other plants tested were: hydrangea, pittosporum, amur privet, and glossy privet.

One of the remaining questions in tests with chlordane is the length of time a treatment is effective, and this can be determined, Mr. St. George believes, only by continued tests. But even the incomplete studies indicate that treatments can hold that termite at bay for periods ranging from four to five years, depending upon whether protection is desired in the south and tropics, where termites are particularly active, or in

northern latitudes and at high altitudes, where termite reproductive pace is slower.

Now for a quick rundown of some of the other insect enemies of wood, which while not as destructive as the termite, deserve mention in any study of forces arrayed against wood users.

If you can hear a slight scratching noise, or you see fine powder on the floor beneath beams or other woodwork, an old-house borer or a powderpost beetle is at work. If you can examine the wood itself, another clue is the irregular type of channel it makes, as contrasted with the follow-the-grain tunnel of the termite. There are eight types of beetles in this group, two of which confine their activities to bamboo.

Another pest is the carpenter ant, which specializes on partially decayed moist wood, particularly wood that has weathered and begun to decay. Porch columns, porch roofs, window sills, posts, poles and even the cavities of trees are sought out by this enterprising creature to make cavities in which to rear its young. It does not actually eat wood, but ejects it in fibrous shreds. In contrast to termites, it cuts across the grain and leaves a clean path. Clues to the carpenter ant are surface holes and small piles of shredded wood fiber outside of infested wood.

Boardwalks, bulkheads and other timber near the waterfront are subject to attack by the wharf borer, another wood eating beetle. It is a limited menace.

Information concerning the control of powderpost beetles is given in U. S. Department of Agriculture leaflet 358. Additional information on termite control can be obtained by writing for Farmer's Bulletins 1911, 1993 and leaflet 324.

Meanwhile the average citizen, and particularly the contractor and builder, can contribute by cleaning up every scrap of stray wood and burning it. Where wooden forms are used in concrete construction, soil beneath it should be chemically treated. Frequent inspection of basements, foundations, porches, steps, and window sills are most important, to nip infestations in the bud.

The day may not be far distant when structural blocking methods, aided by the miracles of chemical warfare, can not only make every home safe from these subversives of the soil, but, at a very modest expenditure, maintain a steady counter-attack that will reduce them from the status of major menace to minor nuisance.

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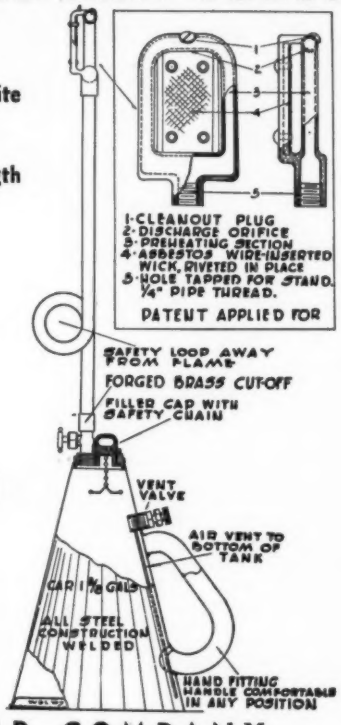
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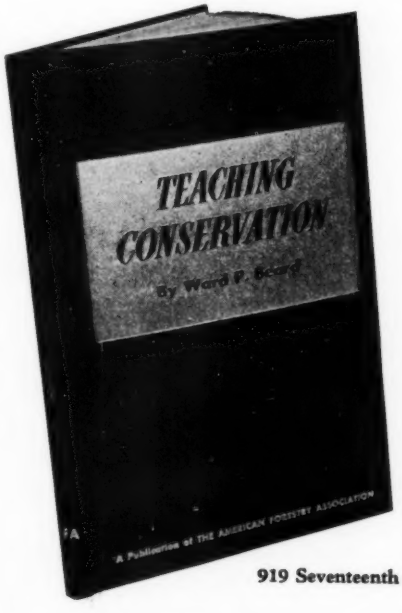

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RANGER MODEL

Road Routes to Jacksonville

(*From page* 35)

canoes through the rapid current. This is beautiful country, which, combined with spectacular engineering works, will justifiably slow you up.

At Huntsville take U. S. 231 south, a curving road that winds through hilly wooded country with many trout streams that will make you wish you had brought your rod and flies. Change routes again at Sylacauga to U. S. 280, through Columbus, Georgia, and heavy pine woods to Richland. Georgia Route 55 and U. S. 82 will get you into Waycross, and U. S. 1 into Jacksonville.

Tour 11

For a less mountainous route from Memphis, take U. S. 78 to Tupelo, Mississippi. Thence via U. S. 45W and U. S. 82 to Columbus, Mississippi, a fine old town noted for its tree-shaded streets, and to the university city of Tuscaloosa. Montgomery, the capital of Alabama, has the First White House of the Confederacy and a replica of the Temple of Hera, the oldest Greek Temple. You'll see lots of planes, because Maxwell Field is not far away.

Stay on U. S. 82 right through the rest of Alabama. Those "orchards" with the trees well apart are pecan groves. Albany, Georgia, is the pecan capital. At Waycross, Georgia, a cypress milling town, pick up U. S. 1 to Jacksonville. Waycross, incidentally, is the gateway to Okefenokee Swamp Park, a wildlife refuge that extends south for an area of 660 square miles.

Tour 12

From Shreveport (for Dallas), follow U. S. 80 due east to Vicksburg, another foremost hardwood market in the South. Here you may see how Old Man River, the Mississippi, has been tamed by studies originating at the U. S. Waterways Experiment Station, which has free guide service. Continue on U. S. 80 to Jackson, the Mississippi State capital, and Meridian, to Montgomery, Alabama. The rest of the route is the same as the eastern end of Tour 11.

Tour 13

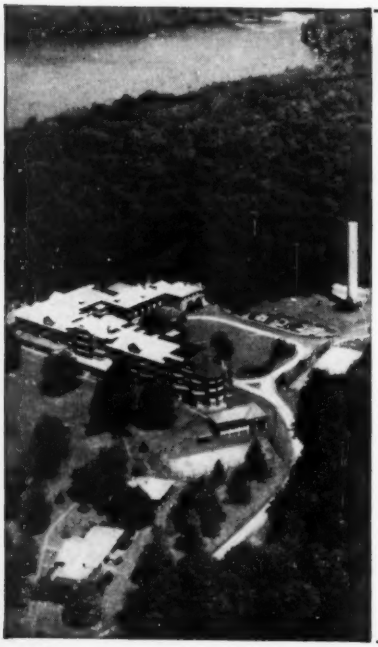
From New Orleans (for Houston and Baton Rouge) you need to keep your eye on U. S. 90 as you wind out Gentilly Road eastward, perhaps after a delicious dinner of French delicacies in the Vieux Carre, or old French Quarter. On each side will be water as you follow the causeway to Bay St. Louis, Gulfport and Biloxi, where the shrimp boats are always "a-comin'," although their sails have been replaced with diesels.

U. S. 90 bends inland to avoid most of Mobile Bay, scene of Admiral Farragut's famous "damning of the topedoes." Mobile gets most of its visitors in March and April, when its colorful 17-mile Azalea Trail is in bloom.

Switch to U. S. 98 in Pensacola, the birthplace of naval aviation. Here you may want to detour to explore the ruins of Fort San Carlos and Old Fort Barrancas, or perhaps to swim in some of the clearest surf in the world. At Panama City leave the coast of the Gulf of Mexico and head northeast via U. S. 231 and Florida 20 to Tallahassee, the state capital, one of the least visited but most charming of Florida cities. Forest roads lead to nearby Apalachicola National Forest.

Beyond Tallahassee our route again picks up U. S. 90 for the rest of the journey through gently rolling pine woods to Jacksonville.

The tours given above are by no



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means the only good, all-weather routes to Jacksonville. U. S. 1 along the eastern seaboard, for instance, is the "old reliable" to Florida, but it threads its way against the traffic of big cities—Philadelphia, Baltimore, Washington, Richmond, Raleigh, Columbia, etc.—with inevitable delays, particularly during the morning and evening rush hours. But if you want to see the many shrines, fine parks and other attractions of these cities, you will find U. S. 1 an excellent means of tying them together.

The speediest route to Florida from New York and New England is via the New Jersey Turnpike, Delaware River Bridge, U. S. 13 to Smyrna, Delaware. Thence via the following routes to the Chesapeake Bay Bridge — Delaware 300, Maryland 300, U. S. 213, and U. S. 50. A new by-pass goes around Annapolis and the U. S. Naval Academy (but you may want to detour via the town, which has more original Georgian architecture than any other). U. S. 50 is followed on a new parkway to U. S. 301.

U. S. 301, the Tobacco Trail, crosses the Potomac at Dahlgren and heads straight south, with Richmond the only big city on the way. Don't forget to leave U. S. 301 at Callahan, Florida, or you will speed right around Jacksonville, too.

While you are in Florida you may want to sample some of the Sunshine State's superb highways. U. S. 1 is the main route to Miami, but you won't see much of the ocean from it. If you have the time, watch for A1A, which plays tag with the sea all the way to Miami Beach itself. U. S. 17 winds through the lakes of the central highlands, where, by asking permission, you can pick your own souvenir orange or grapefruit. U. S. 27 will take you to Lake Okeechobee (fine fishing) and the biggest cane-sugar mill in the United States.

U. S. 301 ends in Tampa, Florida, where you can get real Spanish cooking in the cigar-making suburb of Ybor City. St. Petersburg, across the Bay, provides a convenient headquarters for exploring the West Coast, from the sponge fishing and market at Tarpon Springs to circus winter quarters at Sarasota, Edison's laboratory at Fort Myer, and those Meccas of the shell-collectors, the islands of Sanibel and Captiva.

For the conservationist, no trip to Florida would be complete without a brief visit to one of our newest and largest preserves, Everglades National Park. It may be easily reached by car or boat from Miami.

Water

(*From page* 12)

sources Council. The goal is a definite one: provide Onondaga County with a bountiful supply of pure water for centuries to come.

Six steps essential to a clinic of this sort by civic or service groups in any area, have been listed here by officials who took part in the Onondaga County experiment:

1) Place the project on a joint cooperative basis.

2) Ask top specialists in city, county, state, and federal governments, industries, and educational institutions to participate.

3) Augment the program with extensive public relations activities.

4) Put the clinic "on the record" with questions-and-answers, conducted informally but with a tight schedule.

5) Send special invitations to educational, industrial, and political groups and individuals so that a "quality audience" is assured.

6) Plan for participation of this audience by providing an atmosphere conducive to the asking of pertinent questions.

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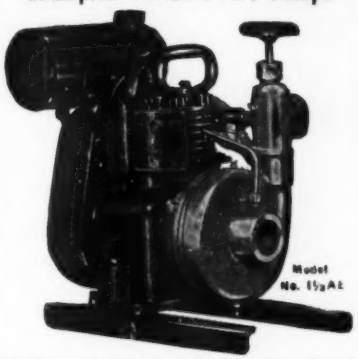

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Along the Appalachian Trail

(*From page 37*)

est uplands on earth, for most of its 71 miles.

The eastern part of the A. T., from Davenport Gap at the northeast corner to Newfound on the transmountain highway, is 31 miles in length and wends its way through absolute wilderness, as about 40 percent of the more than half a million acres that comprise the park are in the original forested condition. The western part of the A. T., from Newfound to Fontana Dam just outside the park, is 40 miles long.

Here most of the A. T. is more than 5000 feet high, and Clingmans Dome, 6642 feet above sea level, is the highest point on the entire trail. You can get to within 331 feet of the top of the dome in a car by driving up the Clingmans Dome Highway, that reaches an altitude of 6311 feet and is the highest highway in the East.

On this section of the trail, seven trailside shelters and three trailside camping sites are nearly equally spaced for one-day hikings trips. Shelters are closed on three sides and provide ample bunk accommodations for six people. A fireplace is in front and water is available.

Plant growth in the general area surrounding Clingmans Dome is so different from the growth at the northern end of the A. T. Spruce and fir crown the highest peaks here and deciduous trees of many species mantle the mountainsides in an unbroken forest cover that cannot be matched in eastern America.

Few, if any, areas in the eastern United States possess so great a variety of plants. Tree, shrub, and herb varieties number more than 13,000. Botanists have listed more than 1800 species of fungi, 300 mosses and liverworts, and 230 lichens. Among the numerous wildflowers are 26 varieties of orchids.

May is the best time to see the mountain laurel in bloom; mid-June is about right to see the flame azalea and rose-purple rhododendron at their finest, and mid-July is likely to be the time when the great white rhododendron is flowering. If you are hiking this part of the A. T. in the fall, all of October is right for the autumn foliage, with the height of coloration near the end of the month.

Here, as in all national parks, forests, and wildlife refuges, wildlife is protected, and since the establishment of Great Smoky, the black bears have increased considerably. The feeding, touching, teasing, or molesting of bears is prohibited. This regulation is enforced strictly for the protection of the public. Persons using park trails have nothing to fear from unmolested bears. If tempted by food, some bears, that frequent sections of the motor road, become dangerous. They should not be fed or approached. Anyone using the A. T. shelters can protect food supplies by suspending them from tree branches outside shelters.

White-tail deer, red and gray foxes, raccoons, bobcats, wild turkeys, and ruffed grouse are some of the wildlife species that the A. T. traveler may see in this area. More than 52 species of fur animals, some 200 birds, 36 reptiles, 37 amphibians, and 80 fishes occur in the Park.

If you want to live off the land, in part, that is, on your trek south, about 600 miles of trout streams flow down the slopes of the Great Smokies that, incidentally, get their name from the deep blue haze that rises from the valleys to the mountain tops, 16 of which are more than 6000 feet high. Hikers can fish for rainbow or brook trout and smallmouth bass. Those fishing in park waters must have the state or county licenses issued and required by North Carolina or the state license issued and required by Tennessee, depending upon the section of the park being fished. The season is from May 16 to August 31.

In North Carolina, the A. T. crosses a deep, steep-walled gorge that the Indians named *Nantahala*, "Land of the Noonday Sun." And in Georgia, the last state going south, it enters a mountain wilderness so extensive that parts of it are 60 miles

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from the nearest house. And then it climbs up Mount Oglethorpe, a 3290 dome that marks not only the end of the Blue Ridge, but the end of the Appalachian Trail.

The A. T., the idea of Benton MacKaye, a Massachusetts forester, was completed in 1937. Shelters and lean-tos, similar to those at Bear Mountain and in the Great Smokies, are available along it at regular intervals. Much of the A. T. is maintained by local Appalachian Trail Clubs, and many of the shelters are owned by these clubs. Open shelters are free for anyone to use. Closed shelters may be rented at 50 cents a night by reservation from the Appalachian Trail Conference, Inc., 1916 Sunderland Place, N.W., Washington 6, D. C. The conference has an excellent "guide" of the entire trail, available at a small cost.

So, if you would like to go South by a less conventional route than U. S. Highway 1, for instance, and don't mind traveling by shanks' mare, why not go part of the way on the Appalachian Trail—a long trail and a trail that is always new, in that it always presents some fresh aspect of the outdoors.

The Little Dipper

(*From page* 13)

bird will repeat the performance in a few minutes, be dunked again and have to backtrack to the shallows.

A dipper may even dive into a deep pool — as always, in search of groceries — walk around on its bottom and sometimes speed his travel by swimming with his wings!

It is a wonder that dippers don't have webbed feet to suit them better to their constant habitat. When swimming on top of still water, they paddle their feet back and forth, just like a duck. But even if the birds act more like grebes and ducks, their closest relatives are the wrens and thrushes.

Dipper fondness for water is complete. He never flies over land, even when he wants to get past a small bend in a creek. Invariably, he takes the longer route over water.

As fledglings, tiny dippers jump from rock to rock in a creek on their first day out of the nest. They instinctively know at that early stage how to run, climb, dive, swim and flutter, if not fly.

A baby still in the nest, observed by Amelia Allen on City Creek near Salt Lake City, Utah, carried the water affinity to the ultimate. He fumbled a juicy grub presented by his mother twice in a row, but retained it after she had soaked it for a moment in the nearby creek.

Dipper nests are "extraordinary pieces of bird architecture," to quote John Muir again. Their bulk is made of mosses and ferns, lined with a few wisps of grass. Some of the moss frequently remains green and continues to grow, as if it had not been transplanted, for dippers make nests in about as moist a place as possible.

A favorite spot for a dipper to build—only the female has been observed working on a nest—is on a rock ledge behind a waterfall. Nest tenants have to fly to and from their abode by disappearing into a sheet of water.

Name by which our birds are known refers to the near-continuous flexing of their legs—for no apparent reason. Some descriptions for these gymnastics are "bobbing, nodding, dipping and teetering," up to 60 times a minute by stop watch. One bird watcher even suggests that the movement is similar to a wig-wag for communication.

The "ouzel" name is derived from German.

The dipper's wink has been a never-ending source of amazement, since other birds merely close or open their eyes. Arthur Cleveland Bent, in his authoritative book on wrens and related birds, writes one page out of 16 on the dipper about the bird's wink.

Indeed, it is surprising to be watching a bird and see one of his eyes wink.

The birds do not have the slightest fear of humans or their usually noisy machines. Lumberjacks often clank their tractors across a creek a few feet away from a feeding dipper. One dipper showed no sign of fear at kindling being chopped up close by and wood chips flying all around.

It is disconcerting not to have a dipper fly away when one gets within three feet of him. Instead, he just continues on his way flipping over stones in the creek while he bobs up and down. He knows full well that no one can scramble around in rocks and water fast enough to catch him.

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See page 47

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(*Adv.*)

Lumbering Safety

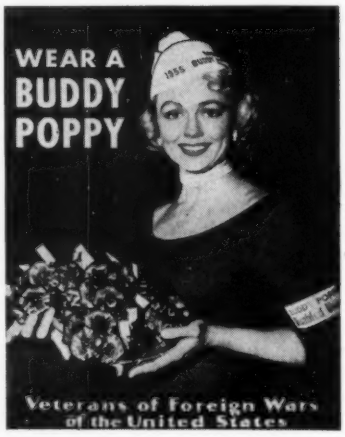
(*From page* 23)

gained his objectives through tact, persuasion and good sales psychology. For example, the problem of the hard hat vanished once one or two bulls-of-the-woods consented to wear theirs around town and into a few bars. Immediately, the cocky younger loggers began swaggering down Main Street with stagged pants and tin hats awry, feeling like big shots. Even the girls gave the impression that hard hats did something for their boy friends. Today, both in the woods and around the plants, a man without a hard hat is conspicuous — and many lives have been saved as a consequence.

During the Age of Awakening, from about 1910 to 1940, the safety movement in lumbering progressed from an initial attitude of tolerance among the better operators and passive resistance among the others, to a peak of enthusiasm when in different regions, safety supervisors, backed by top executives, began promoting contests and hanging up various incentives for improved safety records within their own organizations and among those within their regions. The energy and spirit of generations of lumber workers that had been devoted to getting out logs and sawing lumber regardless, were diverted into the more constructive channels of getting out logs and sawing lumber safely. Competition, playing to win, appealed strongly to the lumbermen's psychology. The results of these energized programs during the last decade have been so amazing that properly, this last period may well be called the Age of Achievement.

To measure the accomplishments of the last few years, I cite as typical of the industry what has been done in the redwood region of California.

Early in 1940, one of the most respected and beloved pioneers in redwood died at the age of 80—Charles Russell Johnson. With great vision and courage, he had founded the Union Lumber Company at Fort Bragg, California, in 1885. Over the years C. R. Johnson was sincerely human in his employee and community relations. At the time of his death, his company had attained a position of recognized leadership in the promotion of industrial safety in the lumber industry.



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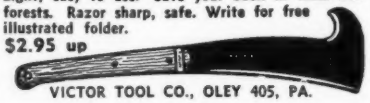

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It was appropriate, therefore, that C. R. Johnson's son, who succeeded him as president of the company, should set up as a memorial to his distinguished father what is known as the C. R. Johnson Memorial Safety Trophy, to be competed for annually by any operating company in the redwood region that wishes to participate in the contest. The possession of this handsome bronze plaque is awarded each year to the company showing the best safety performance and is exhibited proudly through their organization, until another group does better. It has become a coveted possession that sparks keen competition among all the loggers and mill men in the several competing organizations.

Dangling as it does, an incentive for group safety effort before the lumber workers of this region, the act of setting up this trophy actually threw a pebble into a pool, the ever-widening circles from which soon encompassed a standard pattern for safety performance, not only for the lumber industry of the Pacific coast, but elsewhere. The idea of regional competitions for a worth-while trophy has taken hold.

Strict rules to insure uniform reporting and records were devised, with a performance index weighted for frequency and severity to make for fair competition among both large and small companies. The first year's award of the C. R. Johnson Memorial Safety Trophy was made in 1941, with only the three largest redwood companies participating. This year, twelve companies, representing about 90 per cent of redwood lumber production, are out for the annual award with tough but fair competition.

It is significant that in practically all modern lumbering operations, safety on the job is now given preference over production — a far cry from the days, only about 40 years ago, when production was paramount.

The vocation of safety engineer or supervisor is one that calls for continuous and dogged selling to the men, the foremen and the management. Their activities in most cases have the unreserved backing of the company presidents, which helps immeasurably. However, it is a job with which no one is ever satisfied; one filled with uncertainties, disappointments, heart-breaks. Nevertheless, the work that has been done and the programs that have been devised have attained results that would have been unbelievable only a few years back.

In the redwood region, during the last war, with short crews, made up largely of inexperienced men, often working excessive hours for the war effort, accident experience remained static. After the war with conditions back to normal, the frequency of job injuries took a nose dive. Companies competing for the C. R. Johnson Memorial Safety Trophy have shown an average reduction of 55 per cent in frequency since 1948. One of the larger companies has made a record of ninety per cent in frequency reduction over the same five-year period, through 1953, with only five lost time injuries in their considerable woods operations during the latter year. There were no fatalities. Forty years ago, such performance would have been incredible and, probably, ridiculed.

Logs are still coming to the mills; lumber is being cut in huge volume. Loggers are still tough and hardy men, but it has been proven to them that they cannot depend alone on strength and agility. They are using brains—and staying alive.

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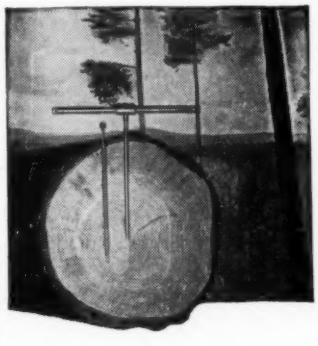

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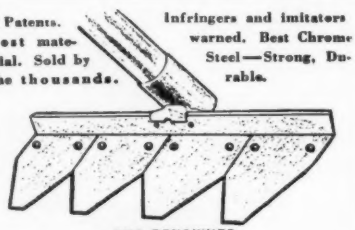

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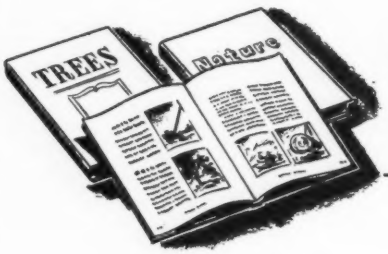

Reading About CONSERVATION

By ARTHUR B. MEYER

SHIRLEY W. ALLEN'S *Conserving Natural Rsources: Principles and Practice in a Democracy* (McGraw-Hill Book Co., 347 pp. $5.50, 1955) is an outstanding book. It is notable for its inclusiveness, and for the clarity with which it classifies and discusses the whole range of natural resources. It is even more distinguished for its integration of the foregoing with an examination of the policies of resource management in a democratic form of government, and for the way in which it relates people, or "human powers" to the other resources.

The author is a retired professor of forestry at the School of Natural Resources, University of Michigan.

The text gives a straightforward, orderly and inclusive discussion of the natural resources. They are classified into those that are inexhaustible, those that are maintainable, and those that are irreplaceable. The first includes the atmosphere and water "in its cycle." The last covers the mineral resources and the attributes of land in an untouched condition. The middle divisions include the generally accepted subject matter classification of the renewable resources—with the exception of the addition under this heading of human powers of the body and the spirit.

Intertwined though this, economic and social aspects are brought out. For instance, under a discussion of maintaining and increasing the productivity of forests, the author points out: "The reader . . . should also remember that, while accumulating and disseminating scientific knowledge and information on the techniques of forest management are vastly important, the way in which a democracy and its people make possible and get to work at the job of management determines whether or not it will be done."

A third feature of the book is unusual and valuable. It is not a feature that takes up much space, and it will probably be more assimilated that directly noted by college students. This is Allen's handling of "human powers" and their classification as factors in the overall picture of natural resources.

This is an excellent book for college students or conservationists of any age.

★ ★ ★

In 1895 Carl Alwin Schenck, a 27-year old German forester with a Ph.D. from the University of Giessen, arrived in the United States. He came to take over the management of the George W. Vanderbilt forest property in North Carolina, the Biltmore Estate, on which scientific forestry practices had first been inaugurated two years previously by Gifford Pinchot. Schenck thus became the third professionally trained forester on the American scene, joining Pinchot, first American to secure such training, and German-born Bernhard Eduard Fernow.

Schenck's recollections of early American forest history and an account of his own part in it have now appeared in a new book, *The Bilt-*

(*Turn to page* 63)

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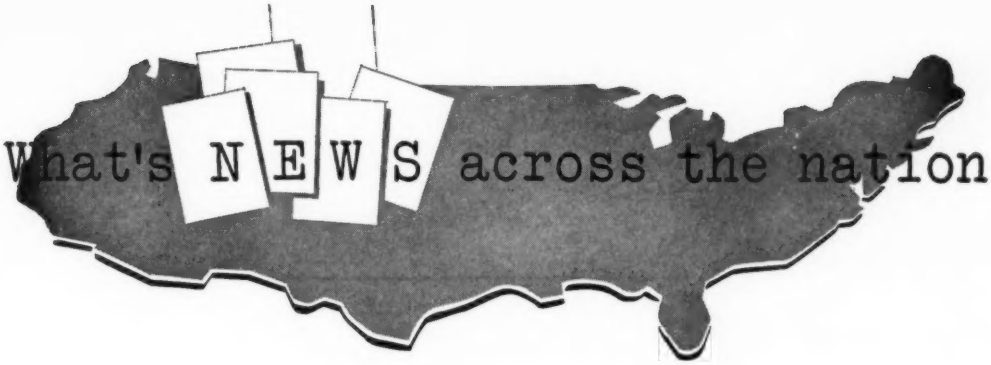

TWO HUNDRED FORESTRY STUDENTS AND ELEVEN FACULTY MEMBERS OF FORESTRY SCHOOLS have indicated their desire of obtaining summer employment in pulp and paper organizations as the result of a survey conducted by the Forest Policy Committee of the American Paper and Pulp Association. According to Executive Secretary E. W. Tinker, of APPA, "The Forest Policy Committee felt it would be beneficial to the industry as well as the students of forestry if this industry would employ these people since most of them will be seeking permanent employment in another year or so and by using them for a three-month period, the industry can undoubtedly uncover some excellent talent." Students and faculty members in 18 schools answered the survey. In so far as possible, the association will assign the applicants to firms in areas in which individual students showed a preference.

J. WHITNEY FLOYD, HEAD OF THE FOREST MANAGEMENT DEPARTMENT AT UTAH State Agriculture College and state forester of Utah, flew to Iran April 24 to establish a forest ranger school in that country. Mr. Floyd said that such a school is needed to build up the nation's small Forest Service. Iran, he said, has eight million acres of prime hardwood forests with seven-foot oaks and five-foot beech and maples. This virgin forest area has never been placed under management due to previous transportation difficulties. Mr. Floyd will be in Iran until October under this nation's Point Four program.

THE SENATE PASSED THE 1.5 BILLION DOLLAR UPPER COLORADO RIVER BASIN reclamation bill last month by a vote of 58 to 23 after a heated debate in which opponents called the water program "a lavish, extravagant, unjustified" proposal. Supporters contended it would contribute greatly to the nation's economic growth. Senators Thomas H. Kuchel, of California, and Paul Douglas, of Illinois, denounced the bill as a "waste of taxpayers' money" while Senator J. William Fulbright, of Arkansas, called it "utterly ridiculous" to authorize the program while the nation still has huge agricultural surpluses. (The bill is designed to stimulate agriculture and industry in the water-shy Rocky Mountain area). In approving the measure, the Senate beat down two amendments to restrict the program to limiting further expansion of the projects and by eliminating the authority for construction of Echo Park Dam in Dinosaur National Monument.

MEANWHILE, THE CONTROVERSY OVER THE PROPOSED CONSTRUCTION of Echo Park Dam in the monument flared up anew in the pages of the Washington Post and Times-Herald when Senator Arthur V. Watkins, of Utah, fired back at an article published April 17 which liberally quoted two conservation leaders who want to keep the monument intact. Referring to an appraisal of the area made in 1943 by Frederick Law Olmstead, the late distinguished landscape architect and planning expert, the Senator quoted Mr. Olmstead to the effect that while the area was definitely of monument caliber that "It is not so unique and precious for such purposes (in the sense that Zion National Park is, for example) and the scenic, recreational and related values which it would have if so administered would not be so largely sacrificed by the introduction of the waterpower developments contemplated by the Bureau of Reclamation as to give very strong grounds for opposing these economic developments if and when it becomes clearly evident that the installation of some or all of these waterpower developments would produce economic values of social importance largely in excess of the economic cost of producing them."

(Turn to next page)

DIRECTOR JOHN L. FARLEY, OF THE FISH AND WILDLIFE SERVICE, LAST MONTH PAID tribute to the nation-wide chain of wildlife conservation stations known as Cooperative Wildlife Research Units which mark their 20th anniversary this year. Located at colleges and universities in 16 states and the Territory of Alaska, the units are designed primarily for field and laboratory research, student training, promotion of conservation education, and for guidance to conservation organizations. The units are sponsored and financed by the Fish and Wildlife Service, the Wildlife Management Institute, land-grant colleges, and state game departments. Since their inception in 1935 about 2,200 wildlife students have graduated from unit schools.

BASEBALL THE NATIONAL PASTIME? DON'T YOU BELIEVE IT, ACCORDING TO JIM KEEFE, of the Missouri Conservation Commission. Quoting Sportscaster Bill Stern, Keefe claims baseball drew 18 million paid customers in 1953, rodeos 20 million and horseracing 32 million. Hunting and fishing outdrew them all with 32 million hunters and fishermen buying licenses. And there were another four million saltwater fishermen not required to have licenses. On the equipment side, baseball equipment manufacturers sold 35 million dollars' worth of goods and golfers spent 80 million on their sport. Hunters and fishermen made that look like small time deals, Keefe continues. They shelled out six billion dollars for tackle, flies and other gear.

FREEMAN TILDEN, PERHAPS THE MOST WIDELY-KNOWN WRITER ON NATIONAL PARKS in the nation and the author of "The National Parks—What They Mean to You and Me," thinks there are encouraging signs as regards the future of national parks and outdoor recreation generally. This doesn't mean that the public isn't going to have to fight to hold onto its parks in the future, he said. It will always have to do that, he thinks. What he had reference to when encountered at a fish fry on Florida's St.John's River last month was the growing public interest in parks and their use. Mr. Tilden also expressed the belief that various professions, including the forestry profession, are becoming "more park and recreation-minded" as time goes on. The interest of Forest Service Chief R. E. McArdle in both national forest and park recreation was cited by Mr. Tilden as an example. He quoted Chief McArdle to the effect that recreation may well become the dominant use in some national forest areas in coming years.

MORE THAN 800 PERSONS ATTENDED A FORESTRY DEMONSTRATION HELD NEAR PEACHLAND, North Carolina, on the W. A. Caudle woodlands on March 30 which was sponsored by the Seaboard Air Line Railroad Company. According to State Forester Fred H. Claridge it was the most "complete program" ever held in the state and brought together representatives of the Vocational Agriculture Department, the Extension Service, North Carolina Division of Forestry and leaders in the business and industry fields. Examples of selective cutting and the planting of seedlings by mechanical tree planter were featured in the woods demonstrations, under the direction of Robert N. Hoskins, industrial forester for Seaboard.

HIDDEN ACRES FARM NEAR ZANESVILLE, OHIO, WILL BE THE HOME OF A NEW QUARTERLY to be published by Friends of the Land and to be known as "Land and Water." The quarterly succeeds "The Land" previously edited by Russell Lord from Maryland. The new editors of the magazine—Jonathan Forman, Ollie E. Fink and Rodger Connor—launched their first issue with a recap of soil conservation activity during the last 20 years. Then just to prove they don't intend to waste any time in carrying their soil and water conservation message right to the grass roots level, they presented an interesting article on the value of "Home Watersheds" and the contribution of the Muskingum Watershed Conservancy District.

AMERICA IS PUTTING A NEW KIND OF ROOF OVER ITS HEAD, THE NATIONAL LUMBER Manufacturers Association revealed last month. The use of glued laminated timber construction has reached spectacular proportions, according to Leo V. Bodine, the association's executive vice president. Three out of four new churches and thousands of schools, homes, stores, supermarkets, auditoriums, theaters, factories and warehouses now exhibit the distinctive architectural forms of "shop grown" timber. Glue lamination frees wood from limitations of size or shape. Ordinary thicknesses and lengths of lumber are glued together, face, side, and end, to create structural members of any design desired by the architect.

Reading About Conservation

(*From page* 60)

more Story, edited by Ovid Butler from Schenck's unpublished memoirs and published by The American Forest History Foundation (224 pp., $3.95, 1955).

Schenck's share in American forest history is probably best known for 1) his establishment of the first school of applied forestry in this country, the Biltmore Forest School; 2) the turbulence and controversy that marked his professional career here; and 3) his forest management practices and experiments in reforestation on the estate.

From reading this book one would gather that Schenck was a man of very considerable intelligence and ability, of great energy and enthusiasm, who evoked strong loyalty or strong opposition from those with whom he came in contact, and who returned in kind.

Management of the Biltmore Estate was beset by problems of marketing and transportation, by forest fires, and by the dearth of knowledge about the silviculture of American tree species. Establishing plantations was a pioneering venture. Schenck faced his problems with enthusiasm. He soon attracted the attention of young men interested in forestry, as he and the Biltmore Estate itself had from all those throughout the country to whom the new words "forestry" and "conservation" were appealing. In 1898, with the approval of his employer, Schenck opened the Biltmore Forest School. This occurred just a few weeks before the New York State College of Forestry at Cornell University opened.

Schenck was convinced that the future of American forestry lay in the hands of those who owned the land and who harvested its timber. He appealed to the men of the lumber industry to send their sons to him for training. The course of study of his school consisted of one year's intensive training with the aim of turning out students who were good lumbermen with a background of practical forestry. Although he engaged in activities at Biltmore that were aimed at increasing its wildlife population, and although he many times expresses a deep aesthetic appreciation of forests, his primary belief seems to have been that forestry had no justification unless its aim was the profitable production of crops of timber.

The Biltmore Forest School flourished for a decade, and was in existence for about 15 years. During this period it graduated between 350 and 400 men, many of whom became well known and influential figures in forestry work. It is easy to read between the lines and to understand how this dynamic individual instilled personal loyalty and enthusiasm for forestry in his students. A more specific expression of this is contained in a brief preface "An Appreciation" written by one of them, Joseph S. Illick.

The Biltmore school closed, however, in 1913 for lack of students. The premise on which it was founded did not coincide with increasing popular interest, at that time, in forestry as a government activity, nor with its concept as a science requiring broad college training. Furthermore, in 1907 Dr. Schenck had had a falling out with his employer, George Vanderbilt, and had been dismissed as forester for the Biltmore Estate.

On the disbanding of the school in 1913, Schenck returned to Germany, discouraged at the lack of general acceptance of his ideas. He served his country during World War I.

This is a narrative outline of the events told about in the *Biltmore Story.* A parallel theme throughout the book is Schenck's account of his differences with Vanderbilt, with Pinchot, and other foresters on the early American scene, as well as his disagreement with the developing philosophy of forestry in this country. One can ponder at this late date on what might have been the total rate of forestry progress here if Schenck's staunch faith in private forestry had been able to foster early development in that field on an equal footing with public programs. However, one cannot help but wonder also if Dr. Schenck might not have furthered his philosophies more successfully had he taken a little different approach to people and events. From the pages of his book one senses an intolerance of other opinions and an autocratic attitude. His hand, however, has left its imprint on American forestry, especially through the attainments of his students of the Biltmore Forest School.

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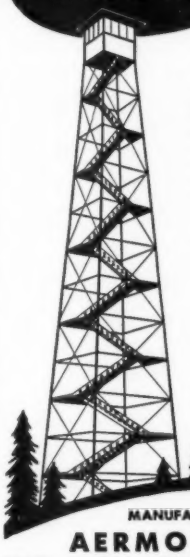

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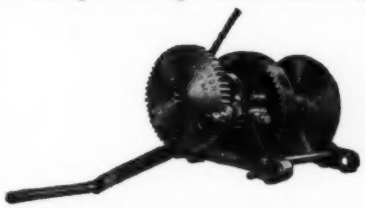

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Feature Photo of the Month

Photos used on this page will be of unusual rather than esthetic qualities and subject matter will be restricted to scenes, events, objects or persons related to the use, enjoyment or unique aspects of our renewable natural resources. For each picture selected AMERICAN FORESTS *will pay $10*

Photo submitted by C. W. Mattison

"Fingers in the sky" is the apt description the photographer gave to this picture of a white pine in the Michaux State Forest, near Mt. Alto along highway 30 in southern Pennsylvania

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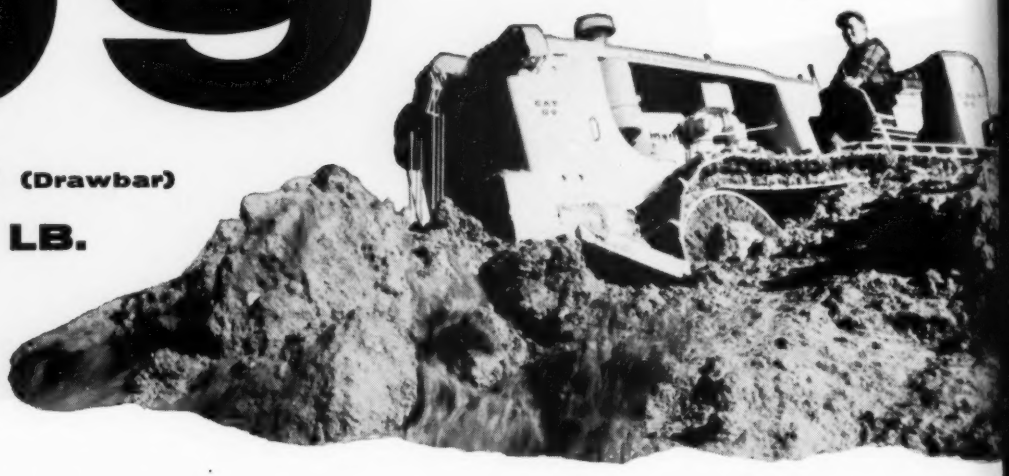

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FAST FACTS ON THE D9

FIRST TRACK-TYPE TRACTOR WITH TURBOCHARGER! The D9's new Turbocharger is driven by the engine exhaust, utilizing energy which would otherwise be lost. Packs air into engine according to engine *load*, not speed; means more working HP — greater performance.

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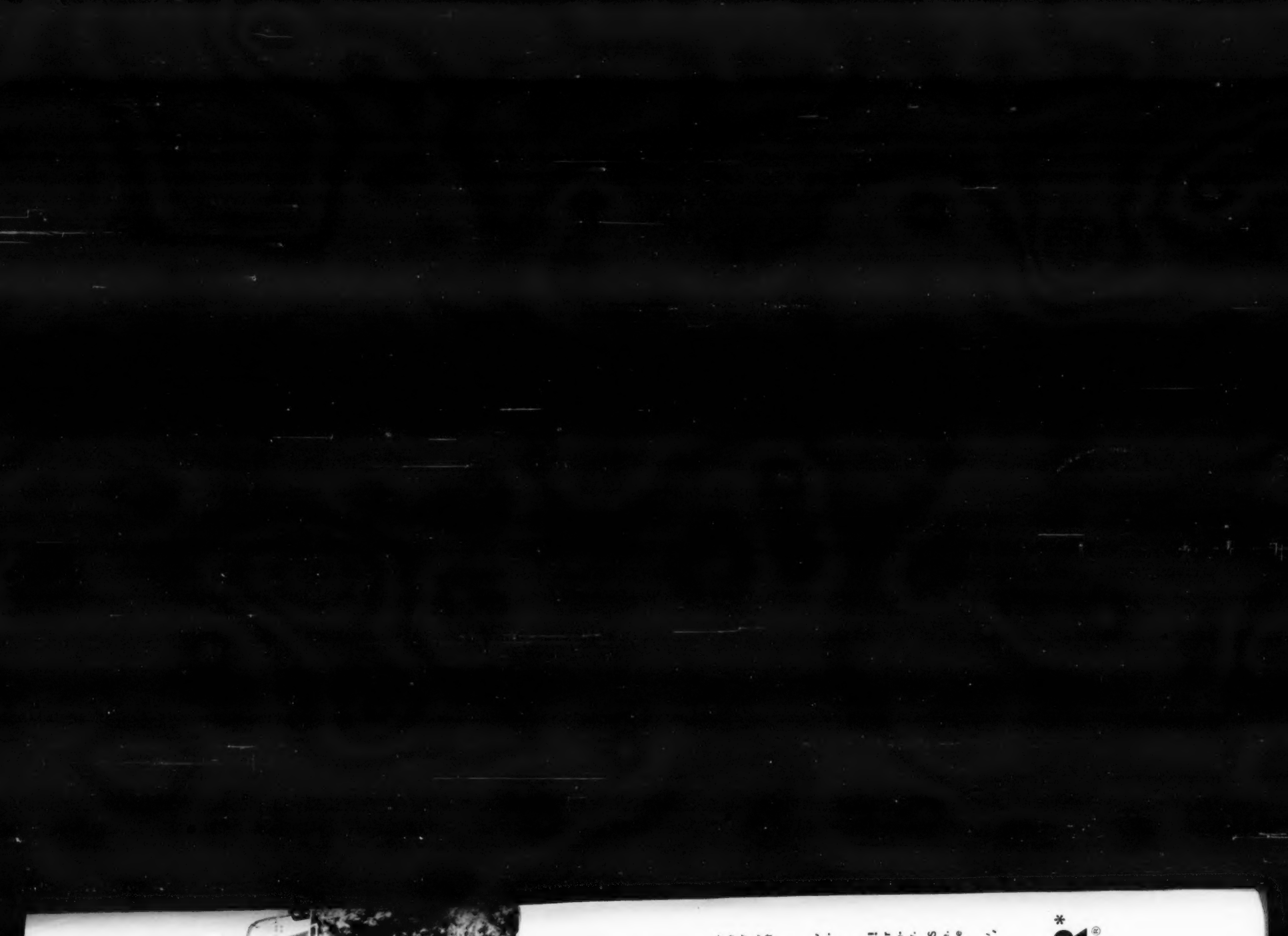
THE D9— NEW KING OF THE CRAWLERS